THE BUILDER

A Journal for the Architect & Constructor

NOVEMBER 2 1928 No. 4474

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86TH YEAR

The Empire Marketing Board's Pavilion, Canadian National Exhibition, Toronto, 1928: Detail of Side Niche.

MESSRS. RICHARDSON & GILL, FF.R.I.B.A., Architects.

THE BUILDER

A JOURNAL FOR THE ARCHITECT AND CONSTRUCTOR

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VOL. CXXXV. No. 4474. NOVEMBER 2, 1928

FALLING LEAVES

AUTUMN comes with a vengeance; a fact of which the nip in the air and the turning of the leaves are sufficient reminders without a return to Greenwich time. As we take a last week-end ramble before laying up the car for the winter, we see that it will be many months before Nature sets about repairing the dilapidations that have already set in. And reacting to the signs of the times, we may well wonder whether the pink and white houses in their youth will ever assume the autumn beauty of the mellow farm-house and cottage.

There is truly a thin dividing line between mellow age and decay, and only sound, ample construction can stay the progress of destruction. If we have indeed built with the wisdom of our forefathers, we may yet see a more general beauty returning to our built-up areas. If we have not, there may be a peck of trouble in store for us. Do not let us be too sure, either one way or the other, for depression is as much the enemy of efficiency as over-confidence. A good many people do, undoubtedly, entertain the gravest misgivings as to what will happen to many of our modern buildings when they reach, as they must, the early autumn of their existence. There are always plenty of people ready to pull a long face, and very few of them prove true prophets, or the world would have come to an end long since. But for all that, it will do us no harm if we think a little seriously about a subject of such first importance.

We have been in a great hurry over our building since the War, and it would indeed be wonderful if we had committed no errors of judgment under such unfavourable circumstances as we have experienced. We had already lagged behind necessity, and four years of the abnormal but added to the overdraft. It was a task for giants, and if we are proud of the energy with which we faced it, we need not be shy of examining whether discretion was the equal of energy in all cases. In many cases there is no doubt that less value, in a comparative sense, has been put into post-War building than was considered a minimum standard for similar cases before the War. If we take earlier days still, for a comparison, it becomes still more accentuated. To some extent this has been only a case of eliminating wasteful construction and elaboration, which cannot be afforded in times of economic pinch such as these have been. Some building traditions were truly born of heedlessness, in times when a stick or a stone extra were neither here nor there. Sometimes, on the contrary, the axe has descended in cheese-paring mood, and the factor of sense and safety has been carelessly mortgaged.

Dry rot is the spectre that haunts the steps of the practising architect. There are certain rules of structure that must be followed if this is to be avoided as a future peril, and by-laws and building inspectors see that these are generally followed. But the chief precaution that is needed is a wise choice of well-seasoned and healthy timber; a choice which the good builder and architect made in pre-War times without thought of other course. Now, however, their choice is more difficult, since the waste of war absorbed world stocks of years' seasoning. Often there has been no choice at all, and it has been a case of that or nothing. Under such circumstances it would be a bold man who could say with certainty that we have not buried in the heart of some of our post-War buildings the seeds of grave future trouble. There are many wood preservative preparations on the market, and a more general use of them might have been wiser in view of the materials we have been forced to use. It has been suggested that the wholesale treatment of building timber stocks in some chemical fashion might have been an economically wise practice, filling the deficiencies where the individual grudged the cost of caution. A little more thought might have been given to this aspect of building, though we do not suggest that such steps were an absolute necessity, or that failure to take them has meant inevitable disaster.

A tendency to cut down the sizes of window frames and similar fittings was rather rife immediately after the War. Very often it must have meant that weather grooves became a futility, and that stops that should have been worked out of the solid had to be planted on. It needs very little of this sort of thing to give opportunity for weather to work its way into the heart of a structure. We are already growing wiser in this direction, and it is truly little that can be saved, even in first cost, by this narrow way of approach to the subject of economy.

A word of warning also about the roof. One can understand the desire to save a couple of pounds a square of roofing in the choice of the materials, and some have justified their selection. In many cases, however, money spent on odd man's wages with ladder and scaffold, repairing deficiencies, has more than cancelled the saving in first cost. There has been far too much worship of the first-cost idea since the War, for building to some extent must always be a conservative process.

We do not share the qualms of those authorities who see, in the almost universal adoption of cavity walling in all house building, inevitable trouble in the future. Iron does, indeed, rust—even galvanised iron—but it has a considerably longer life than many of us think; and half-brick walling in matured mortar will retain sufficient stability long enough for the mild needs of two-story work. The Englishman's home may be his castle in spirit, but it need not be a fortress in fact.

Then there is a general economy of mouldings and enrichment that were once common features in the small middle-class house. We see very few plaster cornices in this class of property nowadays; while plain architraves and skirtings, if better than badly moulded ones, perhaps lack an interest which a little expense might afford. But these signs of prudent economy need not unduly worry us. Like the falling leaves of autumn, they mark merely a season, which will give place to one more generous when times are easier.

Against this we have certainly learnt some points of good sense. We know that brick footings are often a futility, and that scantlings may often be cut down below the rule-of-thumb limit of the text books. Above all, we have learnt that the sham half-timbering, the fussy barge board, the stock stone dressings and carving, and the like, make a poor expression for respectability. These are not falling leaves, but rotten trees; and we can do with the light and air that is let in with their removal.

It is well to remember these three classes of characteristics marking the things we miss in post-War building. First, the dangerous omission that is not worth while; then the one that is worth while for the time being if it must be so; and, finally, the affectations that are as well lost for ever.

A correspondent remarks that the last coat of paint is too often scamped or forgotten in much of the building of to-day. If this is so, it is certainly the wrong end to look for economy. Good and sufficient painting is an insurance against decay for many years, and a coat extra now may mean two or three saved in a very few years' time.

Autumn would indeed be a sad season if we did not know that this is not death approaching, but a winter's sleep; for decay gives us all the cold shudders. So, for the architect and builder, a very suitable autumn thought might be devoted to maintaining that caution in building that has been the tradition of the English builder.

NOTES

The Piccadilly Fountain.

WHATEVER we may think of the suitability of the Eros fountain for a public park rather than for the centre part of a crowded thoroughfare there seems to be a very general desire to have it replaced in Piccadilly Circus, and we believe an exact location for it is being carefully considered. That the general form of Piccadilly Circus will be altered in the future we can hardly doubt and if a proper foresight in development had been shown by our authorities the Piccadilly centre might now be one of the finest parts of London. As it is we suppose certain leases must fall in and some years elapse before the plan of this centre can take its final shape. But there should be no serious difficulty in so placing the Eros fountain that it will form an interesting object from the actual lines of the various thoroughfares which converge here.

Modern Park Design.

IN connection with the interesting International Garden Design Exhibition, which has just been held in the Hall of the Royal Horticultural Society, Westminster, some excellent papers have been read on various cognate subjects, short reports of some of which appeared in our last issue. This week we give an abstract of Mr. Gilbert Jenkins' able paper on "English Gardens," and also a report of a paper by Mr. E. P. Mawson, on "Park Design." Mr. Mawson makes a very pertinent comment on the functions of a public park in the immediate present. He points out that a practical use of parks is a more definite object in their layout and design to-day than it used to be. Public parks nowadays are not merely to be considered as pleasant lounges where the public may enjoy pleasant and beautiful surroundings, but they fulfil a definitely useful and valuable function in providing facilities for games and exercises. Mr. Mawson points out how the development of tennis has brought it into an everyday enjoyment for thousands who formerly could hardly have any opportunity for enjoying it. One of the most charming parts of London is the square of Lincoln's Inn, for its beautiful combination of trees and grass, but this is not only one of the beauties of London, but all through the summer we may see that it is combined with a practical usefulness in providing a setting for games of tennis, putting, etc. Thus, as Mr. Mawson says, our task to-day is not to provide a substitute for nature, but to clothe what can be at bottom a utilitarian project, giving the essentials of beauty without sacrifice of usefulness.

Education.

A TIMELY and valuable pamphlet on the subject of education has just been issued by the Board of Education. It has a long introductory preface by Lord Eustace Percy, who quotes the following, which goes to the heart of the matter, in emphasising that it is our duty "to extend and democratise the secondary public school system, so as to offer a broad practical training for useful employment to the growing millions of our boys and girls, who for want of right training are going unprepared for their life's work into agriculture, industry, commerce, and the home." This is a subject which concerns our captains of industry very seriously, and it could be wished that they could all be made to realise the significance of what this pamphlet suggests.

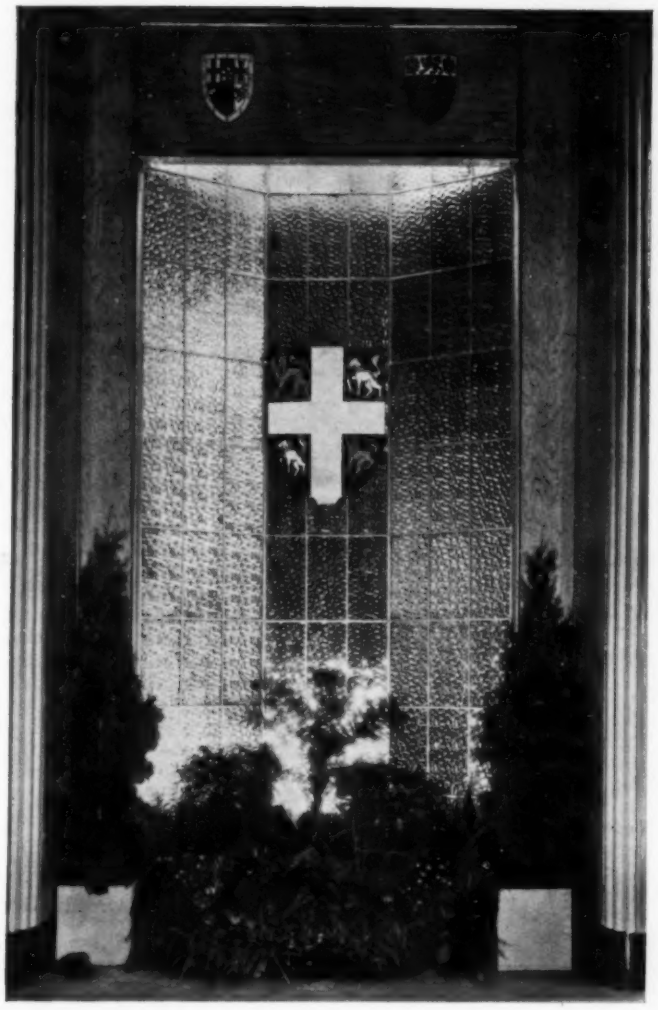
London Squares.

MR. NEVILLE CHAMBERLAIN stated a few days ago that he was not proposing, owing to the pressure on Parliamentary time, to proceed this session with a Bill to give legislative effect to the recommendations of the Royal Commission on London Squares. As a safeguard against building, it should be noted that there is a provision in Lord Londonderry's report warning building owners that they will build over any square in the future at their own risk. This warning has almost the same form as the clause in the preliminary report of a town planning scheme. For the time being, it effectually sterilizes squares and enclosures in the County of London. But if this Government or their successors do not proceed at an early date with a London Squares Bill, there is likely to be a good deal of agitation. The view taken, for example, by the Incorporated Society of Auctioneers and Landed Property Agents, and the evidence given on their behalf to the Commission by Mr. Cecil A. Levy, is that in cases where a district has become industrialised or commercialised, there would be no objection to building over the squares. It was pointed out that Finsbury Square, for example, surrounded by business offices might be built over, though this is unlikely in view of the fact that it is not under private ownership. The very suggestion, however, indicates that there is a powerful class in the community who regard the land on the squares as available for development in certain cases.

A.A. Saturday Afternoon Lectures.

WE note that it has been decided to arrange a series of lectures at the Architectural Association to be held on Saturday afternoon fortnightly, for members of the public. The object of these lectures is to interest the layman in presenting architecture. Full particulars will be issued shortly, and small handbills and other posters giving full details of the lectures are being printed. Copies of these, when ready, may be obtained on application to the Secretary. Admission will be free and all the lectures will be illustrated by lantern slides. The following members have promised to talk on various aspects of buildings in relation to modern life: Mr. H. W. Ansell (President), Mr. C. H. James, Mr. Howard Robertson, the Hon. H. A. Pakington, Mr. F. R. Yerbury. The subjects will be announced in due course. This development in the activities of the A.A. will be watched with interest. Its success will probably depend upon the personal popularity of the lecturers and the "appeal" of the subjects which they choose.

The Empire Marketing Board's Pavilion, Canadian National Exhibition, Toronto, 1928: Frieze, "Canada."
By MR. MAURICE GRIEFFENHAGEN, R.A.



The Empire Marketing Board's Pavilion : Detail of Mirrored Niche.
MESSRS. RICHARDSON & GILL, FF.R.I.B.A., Architects.

Cost of Building in England and the Irish Free State. A CORRESPONDENT writes : "A comparison between the cost of building in England, Ulster and the Irish Free State was recently given me by an architect who is responsible for housing schemes in each of these countries. In the Midlands he has designed non-parlour cottages of about 700-ft. floor space, containing a living room and three bedrooms, that have been built recently for £420 to £440. In Ulster the size of cottages eligible for the Government subsidy of £100 are limited to 650 feet, but although smaller the cost is £520. But across the border in the Irish Free State, only a few miles away, the lowest tender that my friend was able to obtain for exactly the same sized house was £850. This was so high that building plans had reluctantly to be abandoned. The causes of the high cost of building in the Irish Free State are attributed partly to high tariffs, but even more to the very low output of labour, which is normally only about half that of building operatives in this country." This is very interesting, but it must, of course, be understood that we do not hold ourselves responsible for our correspondent's figures.

Greater London Regional Plan. THE importance of the decision taken last Friday (October 26) by the Greater London Regional Town Planning Committee to proceed with the preparation of a regional plan cannot be over-estimated. A year ago all the local authorities within the London traffic area, covering a region of 25 miles radius from Charing Cross, agreed to take part, with five regrettable exceptions, and the Committee now consists of representatives of the London County Council and the City Corporation, of the County Councils of Buckinghamshire, Essex, Hertfordshire, Kent, Middlesex and Surrey, of the County Boroughs of Croydon, East Ham and West Ham, of the Standing Joint Committee of the Metropolitan Borough Councils, and of 126 other local authorities. These have been grouped for purposes of representation so that the total membership of the Committee is forty-five. During the past twelve months Sir Banister Fletcher has proved himself a wise Chairman, and the Secretary, Mr. Montagu Harris, an official of the Ministry of Health and past-President of the Town Planning Institute, has laboured with enthusiasm. During the year several Sub-Committees have been at work. A preliminary survey is being prepared with a view to providing more public open spaces, and possibly reserving an agricultural belt around London. Special attention has been given to industrial developments in the area with a view to considering the possibility of an ordered control in the future, and the establishment of satellite towns. The Committee has been working in close co-operation with the Joint Town Planning Committees already constituted within the area. Last Friday's decision means the selection of a technical expert. There are a number of expert town-planners in this country from whom no doubt the choice will be made.

The **Empire Marketing Board's Pavilion, Canadian National Exhibition, Toronto, 1928 : Frieze, "Britannia."**
By MR. MAURICE GRIEFFENHAGEN, R.A.

GENERAL NEWS

Liverpool Architectural Society: Honan Scholarship, 1929.

A travelling scholarship of the value of £50, for one year, is open to members of the Liverpool Architectural Society (Incorporated) under the age of 30 years (on December 31, 1929). The scholarship for 1929 will be awarded for the best design submitted for following subject:—An Open-air Swimming Pool. Details may be obtained from Mr. J. S. Bramwell, hon. secretary, Blue Coat-chambers, Liverpool.

Hull Pier Scheme.

Hull City Council has decided to go forward with the Parliamentary Bill regarding the new pier and landing stage which is proposed to be constructed at a cost of £100,000.

River Improvement Scheme in Rea Valley.

Birmingham City Council has decided upon a scheme of improvement works upon the Rivers Tame and Rea, and the reconstruction of part of the Rea Valley main sewer, involving an ultimate estimated expenditure of £1,900,000. Instructions are to be given for the promotion of a Bill in Parliament to secure the powers necessary to carry the scheme into effect.

St. Paul's Bridge.

The Bridge House Estates and Special Committees have decided to recommend the Court of Common Council to apply to Parliament for an extension of time for the construction of St. Paul's Bridge. If the Common Council agreed to this course, the whole question of a bridge at St. Paul's would come before a Parliamentary Committee. If Parliament gave the powers sought, says the *Times*, the scheme (or some modification of it) put forward by Sir Ernest Lamb would be thoroughly considered. If Parliament refused, the question of a bridge at St. Paul's would be unlikely to be reintroduced, at any rate for a long time.

National Housing Conference.

A national housing conference will be held at the Palace Hotel, Buxton, during the week-end November 23-26, under the auspices of the National Housing and Town Planning Council. One of the principal subjects on the agenda will be the importance of continuing the national housing programme, and a paper entitled "Principles and Methods of Subsidising Houses for the Working Classes" will be read by Mr. E. D. Simon, formerly Lord Mayor of Manchester. Other subjects for discussion will include the necessity of speeding up slum clearance, the Government's de-rating proposals in relation to housing, the housing of agricultural and rural workers, and the question of unemployment in the building industry. Full particulars can be obtained from Mr. John G. Martin, Secretary, National Housing and Town Planning Council, 41, Russell-square, London, W.C.1.

Sadler's Wells Theatre.

It is expected that the contract for the rebuilding of Sadler's Wells theatre in Rosebery-avenue, Islington, as "the Old Vic of North London," will soon be signed and that the work will make an early start. The plans, which have been prepared by Mr. F. G. M. Chancellor, of the firm of Frank Matcham and Co., provide for the erection of an entirely new building, owing to the state of decay into which the old theatre has fallen, but wherever possible the original walls will be incorporated. There will be accommodation for 2,000 persons, and an actual seating capacity for over 1,700.

New Motor Road to Exmoor.

The Somerset County Council, influenced by the numerous accidents which have occurred on Porlock-hill, near Minehead, have decided to acquire land for the construction of a new road a little over two-and-a-half miles long. This road will entirely cut out the two notorious hairpin bends and the highly dangerous gradient of one in four-and-a-half which at present cause alarm to many of the motorists who have to climb Porlock-hill on their way to Exmoor and Lynton.

Westminster Abbey: Proposed New Sacristy.

A full-sized model of the proposed new sacristy at Westminster Abbey is now being erected on the chosen site, in the corner formed by the north wall of the Abbey and the east wall of the north transept. When it has been completed it will afford a means of judging the architectural effect of the proposed new building in relation to the old, and of ascertaining whether it obstructs the view of the Abbey to any appreciable extent. The model, which is of wood, painted white, will be about 30 ft. square and 20 ft. high. It will show in detail the design of the projected building, which has been prepared by Mr. Walter J. Tapper, P.R.I.B.A.

COMPETITION NEWS

Concrete House Competition.

The promoters of this competition, the British Portland Cement Association, Ltd., 20, Dartmouth-street, S.W.1, announce that the closing date for entry forms has been extended to November 30.

Scottish Architectural Prizes.

The Incorporation of Architects in Scotland offer architectural prizes to the value of £100, £50, £20, £15, and £5. Particulars may be obtained on application to Mr. A. Nicol Bruce, Secretary, 15, Rutland-square, Edinburgh.

A Petrol-filling Station.

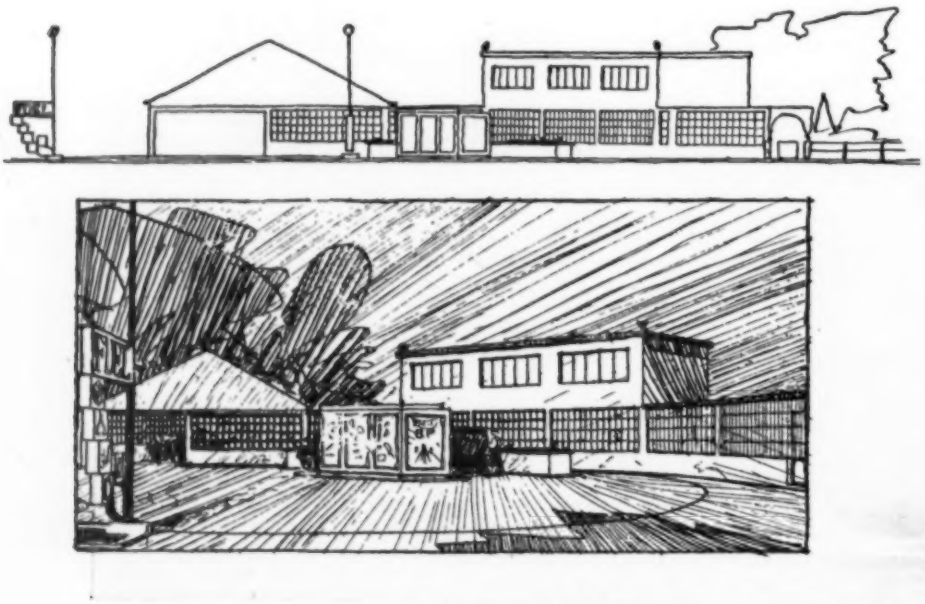
The Royal Society of Arts, in their Section of Architectural Decoration, recently offered a prize of £25 for a design for a petrol-filling station at the intersection of two roads. The scheme had to embrace the general design or lay-out for a complete station comprising a small shop or garage, over which would be a few living-rooms capable of economical erection; but special attention had to be given to separate features which could be erected independently. The desire was to encourage the erection of stations which, with the exception of one prominent sign, should be as unobtrusive as possible, and merge into the surroundings of the rural village street or country landscape. The judges have made their awards as follows:—Prize of £25 to Mr. Thomas Mitchell, Glasgow School of Architecture. Commended: Mr. Robert J. H. Minty, A.R.I.B.A., 21, Great Peter-street, S.W.1.

Mr. Mitchell's design was considered to fulfil the conditions most satisfactorily, the prime reason being that the plan is reasonable and shows easy means of ingress and egress to and from the pumps. The buildings are simple in character and capable of economic erection, while a further merit lies in the fact that the scheme can be developed to serve increasing needs.

Architects' Estates.

Mr. Herbert Riches, Crooked-lane, E.C., and Redbridge-lane, Wanstead, architect, left £38,188 (net personalty £35,380).

Mr. Henry Peover Beckett, Chester, architect (net personalty £10,110), left £12,924.



A Petrol-filling Station: Winning Design.

By MR. THOMAS MITCHELL.

PRESIDENT'S ADDRESS.

THE first of this season's meetings of the Architectural Association was held on Monday evening at 34-36, Bedford-square, W.C.1, the President (Mr. W. H. Ansell, M.C., F.R.I.B.A.) being in the chair except during the reading of his presidential address, when Mr. F. Winton Newman was chairman.

There were eighty-three nominations approved by the Council: the meeting approved these.

Mr. F. A. Feeny, who had been nominated at the last meeting, was elected, and Mr. C. J. Cable was reinstated.

The President announced that during the year the Association had lost three of its members by death. These were Mr. W. H. Seth-Smith, Mr. A. O. Collard and Sir F. H. Crawley Bovey. A vote of condolence with the relatives was passed.

The President then called attention to the "Saving of the Countryside Exhibition" now being held on the Association's premises, and to a series of lectures on "Present-day Architecture" to be given there on Saturday afternoons. (A list of these is given on this page.)

The President, in his address, said that in our age, as in every other, the fact of there being a controversy between Modernism and Traditionalism was in itself evidence of a stirring of life in the body architectural. A few years ago the tendency had been not to study the conditions of men and material which had produced certain detail, but the detail itself had been studied and copied. England, however, had never plagiarised in the way that America had done; for American architects of the day before yesterday had lifted doorways, windows and whole façades from famous buildings of the past and reproduced them exactly in their own work. To-day there was a demand for great comprehensive shops and stores, works and factories, garages, cinemas, aeroplane stations, skyscrapers and other buildings that were as peculiarly a product of our own age as the Greek temple, Roman bath and mediaeval church had been of theirs. Housing on a large scale might also be included in the opportunities for definitely modern design which belonged particularly to our times.

Constructional factors particularly influencing architects to-day were the use of steel and reinforced concrete. Steel enabled a great cage to be erected as the bones of a structure before any enclosing wall shield was begun, and that enclosure of filling could be started on an upper story while the lower portion was still in skeleton form. Reinforced concrete enabled the whole structure to be of one material, even as walls, floors and vaults of a mediaeval cathedral were of one material. This secured a wonderful unity of form; but whereas equilibrium demanded pinnacle and projection, flying buttress and balancing arch as necessary structural members in Gothic architecture, in the case of reinforced concrete the building might stand stark and clean and trim because the stresses were taken up within the material.

The modern architect was acquainted with every type of structure and every method of building and with fashion of architectural expression, ancient and modern; and the questions now being asked were whether contemporary buildings bore any impress or time mark of their own, whether architecture was in tune with and filling a definite place in modern life? In England alone between £150,000,000 and £200,000,000 worth of building was done every year, in America much more; in almost every European country an enormous amount. Were we satisfied with the result? We were not, and he suspected we never should be. On the one hand there were those who said that architecture in every age depended inevitably for its appeal to humanity upon the use of forms which were recognisable to some previous culture. These said that the forms of Greek, Roman and Gothic builders had become part of the language of architecture, understood by most cultured men, and that any thought expressed by any builder must be in that known language or remain unknown and misunderstood. Then there were those who fretted at the eternal repetition of Ionic or Corinthian, who felt just as reluctant to copy the triglyph which Ruskin hated as the crocket which he loved; reasonable men these with a respect for the past, a living interest in the present and a faith in the future. Others said that as reinforced concrete was available architects ought to use it, that if they considered it an ugly unfriendly material they must rearrange their code of artistic values; for these values were obviously wrong. As they were able to cantilever they ought to cantilever, carrying external walls on the cantilever ends and making buildings with horizontal layers of stone and glass. Expressive or constructional forms of past ages should not be used, and houses should be built like motor-cars with windows winding up and down. Was there any ideal, any governing principle or philosophy, which the complete modernist might follow, involving no contempt for the past, disregard for the present, or shirking of duty towards the future? He (the speaker) offered his hearers four points for consideration. The first of these was imaginative planning, and the second clarity and simplicity of dominant motive, however elaborated within its bounds. With this went expression of function. A third point was the use of architectural form only as justified by constructional origin, and a fourth the use of building materials, old and new, in the spirit of tradition.

Mr. H. M. Fletcher, who moved a vote of thanks, said that when speaking of the signs of the times we always had to ask first, what were the signs; secondly, what were the times, and whether it was worth while for an architect in his own practice to try to make it express the times? Personally he had very slight doubt about that; it seemed to him you should do your job as well as you could, and then you could not help expressing the times in some degree because you were yourself a product of the times. He did not think it was necessary to make a building restless in order to make it agree with the restless times we lived in. Some of the serenest buildings in Europe were built during and just after the Napoleonic wars. One of the hopeful signs of our own times was the attitude of people generally to proposed bridges and alterations in planning in London. There were plain signs that engineers themselves were desirous of co-operating with architects in this matter. The volume of public opinion that had been created with regard to the spoiling of the countryside was an admirable sign of the times; because the spoliation and vulgarism took rise simply in ignorance, and the more education and a better view of what the country should be was spread the more difficult it would be for the Goths and Vandals to raise their heads again.

Mr. Arthur Keen, who seconded the vote of thanks, said he had not heard from Mr. Fletcher any definite or strong protest against some of the manifestations of modernist art that were reaching us mostly from the Continent. Some reached us from America, and, in fact, they reached us from all directions. He resented the refusal of all tradition which it appeared to him was the incentive of much that passed for Modernist art at the present day. The thing could hardly be better illustrated than it had been the other day in the "Times," quite by accident. Side by side on one page of that newspaper there had appeared two illustrations. One of these was a German sculptured war memorial of such crude, aggressive and blatant hideousness that it had moved a Prussian officer to protest. The other was a figure of the Virgin treated with extreme graciousness, imaginativeness and freedom. There was a touch of Chinese or Buddhist influence about it—it was quite different from any conception of the Virgin that he had ever seen before. It was thoroughly modern art, but there was not a line or curve in the figure that was not perfectly beautiful. One felt instinctively that it was based on tradition.

The Chairman said that we had produced something in our domestic architecture worthy to go down to posterity: he was not speaking of the speculative work littering the country, but of the better work produced by architects during the last twenty years.

The vote of thanks was heartily accorded, and the President, having briefly replied to the discussion, the proceedings terminated.

We have received from the Architectural Association the list of papers to be read at general meetings during the session 1928-29, also a list of six non-technical lectures to the general public on "Present-day Architecture," to be given on Saturday afternoons. We give full particulars of both groups of fixtures below:—

List of Papers to be read during the Session.

November 26, 1928.—F. Winton Newman, F.R.I.B.A.: "The A.A. Excursion, 1928, to Verona and Venice." Lantern slides. Photographs taken on the excursion.

January 14, 1929.—R. L. Hobson, Keeper, Ceramics and Ethnography, British Museum: "Chinese Art." (Lantern slides.)

January 28, 1929.—Joint Meeting with the Design and Industries Association. "Modern Bridges." (Lantern slides.)

February 25, 1929.—Campbell Dodgson, C.B.E., M.A., Keeper, Prints and Drawings, British Museum: "Architectural Etchings." (Lantern slides.)

March 25, 1929.—Hamilton T. Smith: "Modern Furniture." (Lantern slides.)

April 29, 1929.—Thomas Wallis F.R.I.B.A.: "Modern Factory Buildings." (Lantern slides.)

May 27, 1929.—To be announced.

Non-Technical Lectures

on Present-day Architecture to be given on the following Saturday afternoons at 3 o'clock, at the Association's premises, 34-36, Bedford-square, W.C.1:—

November 17, 1928.—"The Appreciation of Architecture," W. H. Ansell, M.C., F.R.I.B.A., President.

December 1, 1928.—"The Design and Building of the Small House," C. H. James, F.R.I.B.A.

January 12, 1929.—"The New Liverpool Cathedral," Professor C. H. Reilly, M.A., F.R.I.B.A.

January 26, 1929.—"Some Modern Buildings in other Countries," F. R. Yerbury, Hon. A.R.I.B.A.

February 9, 1929.—"Good and Bad Architecture," Hon. H. A. Pakington, A.R.I.B.A.

February 23, 1929.—"The Architecture of the Future," H. M. Robertson, F.R.I.B.A.

All the lectures will be illustrated by lantern slides. Tickets for admission to the whole of the lectures may be obtained free on application to Mr. F. R. Yerbury, Secretary, The Architectural Association, 36, Bedford-square, W.C.1. Admission to these lectures is free.

THE DEPARTMENTAL STORE—III

By F. E. BENNETT, A.R.I.B.A.

Distribution of Parts.

IN a self-contained store building of ten stories—two under the ground—and with a surface area of, say, 150 ft. by 100 ft. to each floor, a normal sort of distribution of parts, in addition to the ordinary selling space, would be :—Second basement : boiler and engine room, lift machinery, refrigerator and cold storage and storage portion. First basement : packing and delivery department, staff lavatories and lockers. Ground floor : entrances, special stairways to basements, display windows, space for porters and timekeepers. First floor : ladies' dress department, ladies' lounge, writing room, dressing rooms and toilet room. Second floor : ladies' hairdressing department. Third floor, banking department. Fourth floor : all selling space. Fifth floor: workrooms, stockrooms and offices. Sixth floor : restaurant and kitchen, and sorting and distribution department. Seventh floor : upper part of restaurant, staff dining-room, lavatories and lockers ; and caretaker.

The system of handling merchandise which is frequently adopted is this: The goods are conveyed to the sorting and distributing department near the top of the building, where they are marked off and sent to the stock rooms. From there they move downward by a gravity process through the departments, until they arrive in the packing room on the first basement as purchased goods requiring delivery. This movement is assisted by spiral conveyors, dumb waiters and belt conveyors. From the packing room parcels are conveyed by the smaller goods lifts back to the ground floor, where they are loaded on to delivery vans.

Restaurants are usually placed on the top floor to get overhead light. The Selfridge building contains an additional restaurant situated in the basement for use in conjunction with the "bargain" department. The restaurant seems to be a necessary part of a department store, although it is said it does not always return a profit.

The Whiteley stores has no selling space below ground, the one basement floor being given over entirely to stock rooms and the receipt and delivery of goods. This building, however, is an exception because it spreads over a site of comparatively low land value, and is much more horizontal than vertical in form. The ground area of the building is large, but there are only five stories.

Interiors.

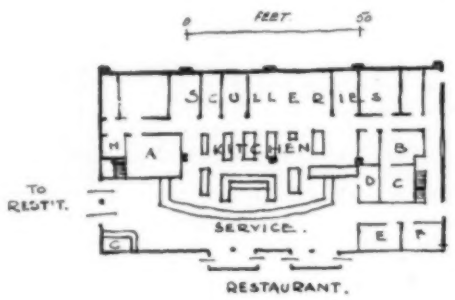
There is something very wearying about the interiors of many stores. One meets the same sort of decoration in all parts of the building, and an endless succession of different goods on counter after counter and floor after floor, all pushed forward as prominently as possible to claim an equal share in the display. There is scope here for the designer of the building to lay down the lines on which the display of goods could be arranged with more interest. Instead of counters running all in regular lines on a grid-iron pattern, they might be designed to form compositions of shapes, with central and subsidiary features, and they might be more varied in finish.

The open staircase of the older buildings and in the Parisian stores is a good feature which helps to give a touch of grandeur to the interiors, but the modern requirement in London that stairs shall be on outer walls and enclosed prevents the use of open staircases now. While fine marble treatments have been developed for the newer form of stairs, the interest centres now on the decoration of the lifts, which become more and more used as buildings tend to get higher. Many elaborate examples of lift doors and their surrounds can now be seen in London.

Some Details.

The best place for the main bulk of the lavatories is considered to be in the first basement, because of the ready access obtainable to the main sewers in the street. They can be placed partially under the pavement, with stallboard and pavement lights over.

When possible, all mechanical and electrical



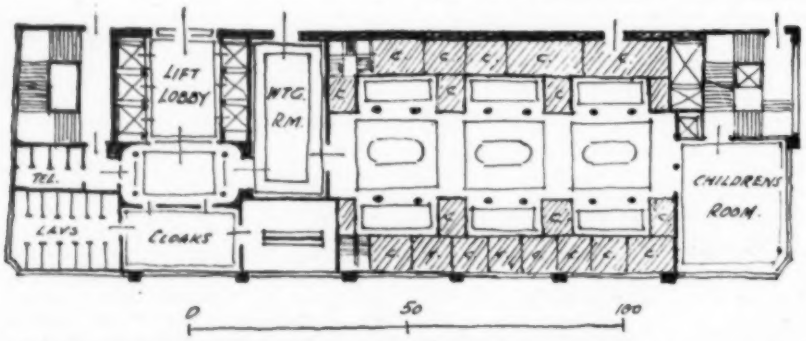
Peter Robinson's Building : Kitchen to Restaurant.

equipment is concentrated in one place, so that the chief engineer can keep direct control of it. The equipment in the basement will probably include lift engines, switchboard, oil tank, oil reheating tank, refrigerating plant, ventilation plant and gallery over boiler-room.

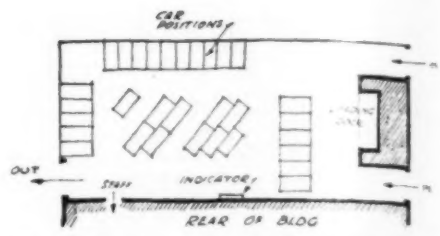
The boiler-room will probably be sunk to a lower level and contain engines of the goods lifts, two or more boilers, pressure pumps, vacuum plant and perhaps artesian wells.

The use of oil is preferred, for one reason, because coal bins take up so much room, and the refilling of them is a cumbersome process.

In some stores, particularly in America, it has been found economical to instal electric generating plant instead of using the local supply of current. This is important when it is remembered how much some stores depend on artificial light. The basements and



Peter Robinson's Building : Ladies' Hairdressing, Manicure and Chiropody Department.



Debenham and Freebody's Buildings: Diagram showing Arrangement in Principle of Car Park.

parts of the upper floors require electric light always, and the managements generally like to use it elsewhere when they can. In the Saks stores, in New York, daylight is entirely excluded from the ground floor, and on the upper floors it is blocked out a good deal by showcases placed against the windows.

Electric lifts, if small and numerous, are found to be better than large ones—6 ft. by 6 ft. is a good size. When lifts are placed in a long line they have to be divided into sections—those going up and those going down, so that people do not wait in the wrong places. If the building is tall, some of the lifts may be specially fast, missing the lower floors. 300 ft. per minute is about the rate for a fast lift. Goods lifts may be any size to suit the other types of conveyance in use. The Macy Store in New York has what are called "Jumbo Elevators," which take a horse and cart complete up to the distributing room on the seventh floor. The same store has experimented successfully with escalators, which are installed right through the building. The customers do not use them much, but the staff do, and find them quicker than the lifts.

Counters, showcases, etc., usually have glass fronts to show the contents of each compartment behind the counters and against the walls. The showcases behind counters are often kept down to a height of under 5 ft., so that a view of the entire shop can be obtained by the public. Wall cases above 6 ft. high are not good, because assistants have to use ladders to get at the contents. Counters should be movable and made preferably on the unit principle, so that they can be moved into any position, as the place and form of departments change.

The disposition of show windows forms part of the problem of the original design of the store, for it is always a question which is more important, the entrance or the show window. They cannot both take the central position on the façade. By splitting what might be a main entrance into two entrances with a long show window in between a very effective arrangement is obtained. The depth of about 8 ft. for show windows is fairly consistent in all buildings, with perhaps greater depth at corners and for special window. Heights and widths vary a good deal. Those at Whiteley's are probably as big as any, some being as much as 40 ft. long and about 13 ft. 6 in. high. The Saks building, which is one of the newest department stores in New York, has its windows purposely cut up into lengths of 15 ft., although the internal steel bays are more than 20 ft. wide.

In the Lord and Taylor building the arrangements for dressing the shop windows take a novel form. The windows are all in duplicate and lowered to or raised from the first basement, where they are dressed by daylight under the pavement lights, the showcases being interchangeable by means of a system of rails on the basement floor level. During the night when the store is closed a window takes the place of the entrance door. This also is raised from the basement, the doormat standing on the top of it during the day.

Car parking presents serious difficulties in some cases, particularly where the building is on an island site. Traffic in the back street is liable to be seriously congested if many cars arrive at one time. The arrangement at Debenham and Freebody's building is almost ideal. The chauffeur of a car drops

his passenger at the main entrance of the store and receives a numbered ticket which entitles his car to a place in the private courtyard at the back. The places in the courtyard are all carefully marked off, so that the circulation of traffic is not impeded, and so that each car can extricate itself easily. When the car is wanted again a bell rings, and the ticket number is shown on a large electric indicator.

The use of "Sprinklers," which act automatically on the outbreak of fire, is almost universal. Four heads to a bay is usual. The cost of installing the system is said to be amply covered by the saving in insurance money made over a number of succeeding years. In addition to sprinklers, fire hydrants are usually provided, the water for them being taken off the local supply, whether there is an artesian well or not.

Hairdressing departments are found to produce good revenue in modern shops, and some permanent provision in the structure of the building is considered necessary to provide an adequate department. The one in Peter Robinson's, of which a diagram is given, consists of a number of cubicles arranged in two tiers along both sides of a large salon with waiting and other accessory rooms adjacent. The children's room is a good feature.

By sinking an artesian well an economy is sometimes made. The cost of construction and maintenance, say £2,300, should be covered in two years by the annual saving on the water rates. The water for heating, after flowing from the boilers, is forced through the building by the pressure pumps. Hot water for lavatory basins, etc., can be obtained off the boilers, collected by the calorifiers.

Space for staff lockers is a very necessary provision. Made of steel and of size about 14 in. by 12 in., they should be spaced with 3 ft. gangways.

The desire to achieve labour saving and easy upkeep has led to the very general use of metal nowadays. Window frames of bronze or steel are variously employed, and often moulded into elaborate designs. Hardwood doors, tile window boards, tile linings, architraves and dados all help to keep down labour. The shop front bronze work in Peter Robinson's is made on the "Kalamine" process, which is thin metal sheeting drawn over hard wood.

The kitchen to the restaurant is a specialist's business, but the diagram illustrated gives an idea of the general lay-out required to provide a restaurant with a capacity for 700 people.

Artificial ventilation is practically indispensable in a large store building where many parts of it are far from windows and where there are perhaps three basements. A normal method is to draw in the air by fan from the roof; it then passes down shafts to the washing machine in the basement. After being cleaned and warmed to the required temperature it is passed into the shop at various points. The used air is drawn away by different routes to a central extract, also probably on the roof. The washing machines are supposed to be very thorough and cleanse the air of nearly all its impurities—of even the London air.

The doors in a store require some thought. They must not be too heavy to be opened by a woman carrying or leading a child. Some stores like the entrance doors to be kept open, but it is more usual to have a range of single swing doors opening on the left hand from the outside. When entrance vestibules are artificially ventilated and heated, a range of such doors is placed on each side of the vestibule. Circular doors are not very good where the traffic is at all great. There is always the possibility of children being injured by badly-placed hardware or by swinging doors. It is very important that everything in the store should be foolproof and designed to assist the easy movement of the public.—rounded columns; rounded corners to counters and show cases; radiators kept within the thickness of the walls; lifts which work with absolute accuracy and with rubber mats at the stepping-off places—for if anything goes wrong the store is responsible.

* * *

The department store is a fairly modern growth in England. We have clung for many years to our small shops, which have known our personal peculiarities and ministered to our individual wants. But the big store has fought a long battle with the small men and now seems to be winning. The encouraging thought in the situation is that greater opportunities are being made for the exercise of fine craftsmanship. Conditions are improving, so that the artist, too, will welcome opportunities to co-operate in the effort to make these buildings something more than centres of pure utility.

The architects of buildings mentioned are :—

Selfridge's (first part).—Designed by Messrs. D. H. Burnham and Co. Revised and executed by the late R. Frank Atkinson.

Selfridge's (the extension). — Messrs. Graham, Anderson, Probst and White, and Sir J. Burnet, R.A., and Partners.

Barker's.—Sir Reginald Blomfield, R.A.

Whiteley's.—Messrs. Belcher and Joass.

Peter Robinson's.—Messrs. T. P. and E. S. Clarkson and H. Austen Hall.

Dickins and Jones.—Messrs. Henry Tanner.

Liberty's.—Messrs. Edwin T. Hall and E. Stanley Hall.

Swan and Edgar's (extension). — Sir Reginald Blomfield, R.A., and Mr. J. J. Joass, F.R.I.B.A.

Saks.—Messrs. Starrett and Van Vleck.

Lasalle and Koch.—Messrs. Starrett and Van Vleck.

Wanamaker's.—Messrs. D. H. Burnham and Co.

The Gorham Building.—Messrs. McKim, Mead and White.

(*Concluded.*)

CORRESPONDENCE

"The Departmental Store."

SIR,—In the second of his articles on "The Departmental Store," Mr. Bennett writes: "The exterior walls are built, in principle, to be self-supporting. . . . This method of constructing the outer walls *independent of the main steelwork* appears to be largely the result of the law which requires that 4 in. of cover shall be provided to protect the exterior members of the frame." He also states that the external walls could be carried on steel beams if only the cover, demanded by the law, were reduced to 2 in.

If Mr. Bennett will refer to the L.C.C. (General Powers) Act, 1909, section 22, subsections 2, 9, 11a and 18a, he will see that, in order to comply with the law, the external walls *must* be supported at stages by steel beams. Furthermore, the height of these stages (or panels) is strictly limited.

Sub-section 4 of the same section of the same Act states definitely that only 2 in. of cover need be provided to the edges of flanges of beams in external walls.

N. H. M.

In reply to the above letter, Mr. F. E. Bennett writes as follows :—

SIR,—"N. H. M.'s" letter confuses the meaning which it was intended to convey. The *principle* of the built-up wall still persists in designing and constructing, although support is obtained from wall beams. The idea of beam and panel which allows the outer wall to be started, say, at the top, is not generally accepted in this type of façade.

F. E. BENNETT.

MEETINGS

MONDAY, *November* 5.

Royal Institute of British Architects. Presidential Address, by Mr. Walter Tapper, A.R.A. 8.30 p.m.

Society of Engineers. Mr. C. R. Enock on "The Future of Engineering in the light of Modern Economic, Industrial and Political Conditions." 6 p.m.

TUESDAY, *November* 6.

Timber Trade Technical Education Committee. Mr. W. A. Kaye on "Some Legal Aspects of the Business of a Timber Merchant." At the London Chamber of Commerce, E.C. 6.30 p.m.

Institution of Civil Engineers. Presidential Address by Sir Brodie Haldane Henderson. 6 p.m.

Illuminating Engineering Society. Opening Meeting. At 15, Savoy-street, W.C. 2. 6.30 p.m.

WEDNESDAY, *November* 7.

L.C.C. Central School of Arts and Crafts. Sir Banister Fletcher, F.R.I.B.A., on "Italian Renaissance: St. Peter's Cathedral and the Vatican, Rome." 6 p.m.

St. Paul's Ecclesiological Society. Mr. H. S. Goodhart-Rendel on "English Gothic Architecture of the Nineteenth Century." At 9, Conduit-street, W.1. 8 p.m.

Royal Society of Arts. Sir George Sutton, Bt., Chairman, on "Fifty Years of British Industry." 8.30 p.m.

Institution of Sanitary Engineers. Annual Dinner. At the Holborn Restaurant, W.C.2. 7 p.m.

Heating and Ventilating Engineers. Mr. G. A. Cottell on "Heating and Domestic Installations—the Insurance Point of View." At the Caxton Hall, S.W.1. 7 p.m.

THURSDAY, *November* 8.

London County Council Lecture. Mr. F. Roe on "The Work of Tudor Craftsmen." At the Geffrye Museum, Shoreditch, E. 2. 7.30 p.m.

Society of Antiquaries. Ordinary Meeting. 8.30 p.m.

Institution of Structural Engineers. Presidential Address by Lt.-Col. J. Mitchell Moncrieff. 6.30 p.m.

Institution of Electrical Engineers. Mr. W. McClelland on "Application of Electricity in Warships." At Glasgow.

Institution of Municipal and County Engineers. Meeting of the Metropolitan District. At the Deptford Town Hall. 6 p.m.

RENAISSANCE ARCHITECTURE

Sir Banister Fletcher, F.S.A., F.R.I.B.A., lecturing on October 24 at the Central School of Arts and Crafts on this subject, gave a comprehensive description of the buildings of Northern Italy in the Renaissance period, chiefly those of Pavia, Milan, and neighbouring centres. Milan, he said, when she had shaken off the German influences which had prevailed in the Gothic period, soon reverted to the old classical traditions, which in Italy had always been dormant, to the solidity and stateliness of design and the delicacy of conventional detail. The beautiful marble of Carrara made a new refinement possible, while in the plains of Lombardy the clay provided a brick architecture characteristic in its aspect, and the latter, too, lent itself to a grace of decorative detail which was dear to the Italian spirit. At the great Carthusian church, or Certosa, at Pavia, the brick Gothic blended oddly with the brick Renaissance and the gorgeous west front in white marble, in which Gothic vertical lines took the form of pilasters and slender baluster columns—Gothic in spirit, but Renaissance in detail. After describing some typical churches and palaces in north Italy, the lecturer concluded with the Villa Lante and showed some views of the formal gardens which form a setting to this charming country residence.

ILLUSTRATIONS

PLATES

New Spa Buildings, Droitwich.

This design shows new buildings for the brine baths at Droitwich, Worcestershire. The buildings are to be erected on a magnificent site in the park, and will have a commanding position worthy of their importance. Two large swimming-baths are to be provided, in addition to over 300 reclining and treatment baths and dressing-rooms. The main entrance hall and lounge will be surmounted by an imposing dome. The latest and most up-to-date equipment will be provided, including an extensive medical electrical installation. Every provision is being made to make the establishment, when completed, unique in England, and the promotors claim that it will excel the best of the Continental spas. The improvement of the social amenities of the spa has been incorporated in the scheme. The exclusive rights of the brine for medicinal purposes over a vast area were included in the sale, which recently took place.

Messrs. Yates, Cook & Darbyshire, of 43, Great Marlborough-street, W.1, are the architects, and Messrs. Humphreys, Ltd., of 185-187, Knightsbridge, S.W.7, will be the contractors.

New Offices, Sun Life Assurance Company of Canada.

These new offices have been erected in Cockspur-street, S.W., adjoining the Canadian Government building. The planning of the offices presented many unusual problems, by no means the least being the irregularity of the site. Although there is not a right-angle anywhere on the site, yet the impression given, both inside and outside, is that of a regular and rectangular building. The design, carried out externally in Portland stone, is simple and dignified, ornamentation having been sparingly used. There are ten stories, three below and seven above the ground. The building is as fireproof as it is possible to make it. The floors are of tile, steel and concrete, finished in marble or linoleum. The partitions are of terra-cotta blocks and bricks, and the doors and frames are of hollow metal. The metal partitions, with the exception of the bronze, are of the same construction as the doors and are of standard unit lengths. They can be taken down easily and re-erected wherever desired.

The main entrance hall, lift halls, corridors and stairways are finished in Rose Tavernelle marble, and where marble has been used for the floors it is of Bianco del Mare, with Levanto and Belgian black borders. The skirtings throughout the offices are made of Belgian black marble; the counter tops on the first floor are of Tinos marble, which has also been used in the supervisor of agencies' room, Sienna marble being used in the general manager's room. The ground floor, not yet being needed by the company, has been prepared for tenants. The Royal Bank of Canada occupy one portion, and their banking room is finished in Botticino and black and gold marble, with bronze doors, screens, cashiers' cages, etc., this treatment being also used in the safe-deposit room in the basement. Modern burglar-proof vaults have been provided, complete with individual deposit boxes and coupon-cutting cubicles. The main entrance doors and the principal doors on the ground floor and first floor, the lift doors, radiator grilles and exterior lamp standards are made of Canadian bronze, fabricated in Canada. The rest of the bronze work is of English manufacture. The passenger lifts travel at a speed of 450 ft. per minute. The building is heated throughout with hot water in forced circulation. A large domestic hot-water boiler keeps hot water in constant circulation through the services to the lavatory basins. The water supplies for drinking and domestic purposes are obtained through two artesian wells sunk to a depth of 450 ft. into chalk. A system has been adopted by means of which fresh air is continuously being brought into the building, air which has been purified and tempered to suit whatever weather conditions prevail. The staff is provided with luncheon daily by the company's own commissariat department. A portion of the first basement will be taken up by the cafeteria kitchens, etc. Electric light is distributed evenly, and with complete freedom from shadows. Electric clocks are fitted throughout the building, being driven by a master clock in the switchboard room. The ceilings have been treated acoustically for the absorption of noise. A conversation can be carried on in low tones even on the first floor with windows open and traffic noises at their greatest. The office equipment is entirely constructed of steel—steel partitions, steel desks, steel files, steel cabinets. The stairs, with the exception of the main stairway from the ground to the second floor, are of pressed steel and cast-iron construction, with Bianco del Mare marble treads and landings. The lower flight is constructed of reinforced concrete cased with marble.

The building was designed by Mr. Septimus Warwick, F.R.I.B.A., of London, in collaboration with Mr. A. J. C. Paine, B.Arch., A.M.E.I.C., the staff architect to the company in Montreal. The general contractors were Messrs. Trollope and Colls, Ltd., of London.

The sub-contractors were as follows:—Le Grand Sutcliffe and Gell, Ltd., artesian well; Aston Construction Co., Ltd., steelwork; F. Braby and Co., Ltd., metal stair; Doulton and Co., Ltd., terra-cotta and sanitary fittings; G. E. Taylor and Co., electrical installation; Fenning and Co., Ltd., marble work; John Tann, Ltd., safe deposit vault; Crittall Manufacturing Co., Ltd., metal windows; Art Metal Construction Co., steel hollow doors; Norris Warming Co., Ltd., heating and hot water; Self-Sentering Expanded Metal Co., Ltd., suspended ceilings; Shanks and Co., Ltd., sanitary fittings; Dent & Hellyer, Ltd., sanitary fittings; H. W. Cullum & Co., Ltd., agents for John Manville Corporation of Canada, acoustic ceilings; Waygood Otis, Ltd., lifts; Hughes & Lancaster, Ltd., ejector; Robert Mitchell and Co., Ltd., and Birmingham Guild, Ltd., bronze work.

The Canadian National Exhibition, Toronto. Empire Marketing Board's Pavilion.

The illustrations which we give show details of the principal pavilion erected by H.M. Government (Department of Overseas Trade) at the Canadian National Exhibition of the Golden Jubilee Year, 1928. The pavilion had to be contained in an existing carcass building having numerous stanchions and iron supports. It was decided to treat the scheme as a temporary pavilion, the design of which should have an imperial character. It was thought essential to embody present-day architectural tendencies, and to combine in a rich colour scheme the attributes of architecture and painting. We learn that the effect was highly successful and produced a great impression in Canadian circles. As will be seen from the illustrations, the large octagonal hall formed the nucleus of the scheme. Heading this feature there was a circulating avenue with recesses for the display of goods.

The scheme was conceived on a great scale, the velarium over the octagonal hall enclosing a volume of space 50 ft. in height. From a pictorial point of view the success of the scheme can be attributed to the harmony of the colours chosen. For example, the floor of the octagonal hall was designed to represent a conventional sun. This was accomplished by using coloured rubber inlaid to a pattern. The large columns were painted red, the bases black, and the capitals ivory and gold. The beams, and all woodwork, were of cedar wood. Above the columns there was a painted frieze representing important events in the national history. On either side of the large hall were two niches, each draped with royal purple curtains, relieved by chevron ornament in gold. The numerous recesses were designed with backgrounds of special mirrored glass. Similar care in detail was paid to the subsidiary stands and the arrangement of the goods.

His Majesty's Government commissioned Messrs. Richardson & Gill, FF.R.I.B.A., to prepare the scheme and to embody the friezes designed by Mr. Maurice Grieffenhagen, R.A., in collaboration with the architects. Mr. Warren Wilson, A.R.C.A., was called upon to assist with the heraldic devices, and Mr. Percy Bentham, A.R.B.S., was responsible for the architectural modelling. The whole scheme was organised in England under Colonel Cole and erected at Toronto under the general supervision of Mr. Freeman Matthews. At night the lighting effect was very effective. Mr. Thomas undertook to go out to Canada to supervise the lighting, the architects having prepared models. This scheme is noteworthy as being an attempt to express modern art tendencies combined with scholarship and tradition. It is the first of a series of exhibitions of a similar nature projected by the Department of Overseas Trade for the benefit of the Empire.

"The Crown" Hotel, Maidenhead.

A recent improvement on the main Bath road through Maidenhead is the rebuilding of an old hostelry in Bridge-street, formerly known as "The Crown" Inn. The object of the owners, Messrs. Dymore, Brown and Son, of Reading, was to build a moderate-sized first-class hotel to meet the demands of residents, visitors and the greatly increasing travelling public. The new building is designed in a simple Georgian style, quiet in character and restful in appearance. Externally it is faced with hand-made sand-faced dark red multi-coloured bricks. The hotel entrance doorway, the corner entrance to the saloon bar and the stone dressings to the window over have been executed in Hartham Park stone. Surmounting the saloon bar door hood is a painted copper crown made by Mr. Herbert Maryon. The main roofs are covered with old tiles largely obtained from the original building. The entrance to the hotel leads into a lounge with oak block floor, and ceiling decorated with fibrous plaster in high relief. The lounge bar has walls panelled with Austrian oak, the counter and service fittings being of the same material. The fireplace interior is of rustless steel with a Swedish green marble surround. The bar and private bar have panelled Austrian oak dadoes. The large dining or club room has an oak sprung dancing floor and oak dado, the wall above the dado being relieved with plaster panels. The ceiling is panelled and enriched with fibrous plaster in high relief. All the chief bedrooms are fitted with lavatory basins.

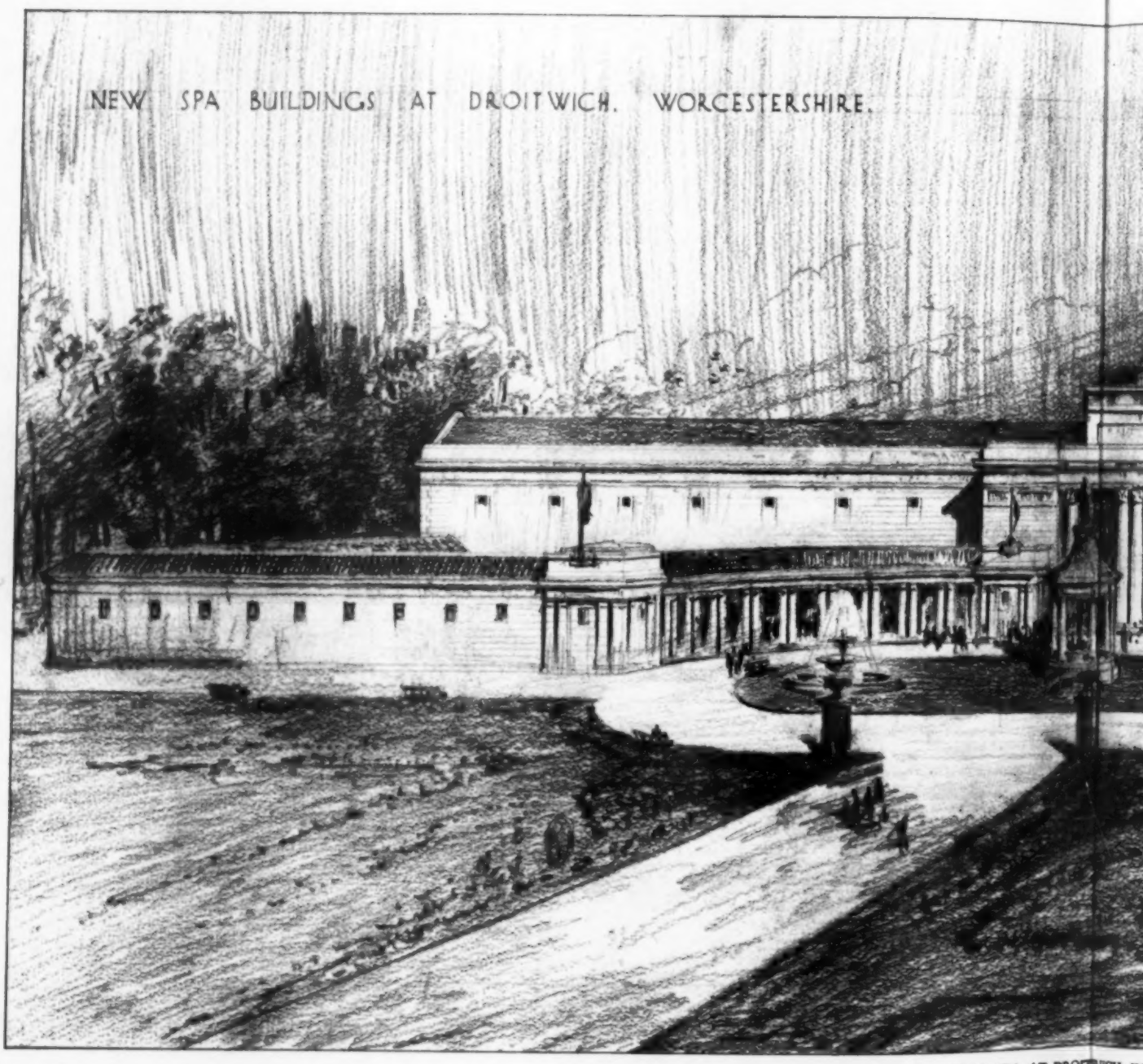
The general contractors were Messrs. Wm. Creed and Co., of Maidenhead, and the chief sub-contractors were as follows:—Mr. Herbert Maryon, of Reading University, the "Crown" sign and fibrous plaster decorations to club room; Liberty and Co., fibrous plaster decorations to bars and hotel lounge; S. and E. Collier, Ltd., facing bricks; Bratt Colbran and Co. and Waring and Gillow, Ltd., fireplaces; Benham and Sons, Ltd., cooking apparatus and carving tables, etc.; Mr. F. G. Alden (Oxford), central heating and hot-water supply; Mr. W. N. Bishop (Maidenhead), electric installation; Waygood-Otis, Ltd., service lift; Doulton and Co. and the Stourbridge Fire Clay Co., sanitary fittings; Bell's Poilite and Everite Co., Ltd., rubber tiling to bathrooms; Francis Morton, Junr., and Co., floor springs for dancing floor; and Lips, Ltd., safe.

Clock Tower in Reinforced Concrete.

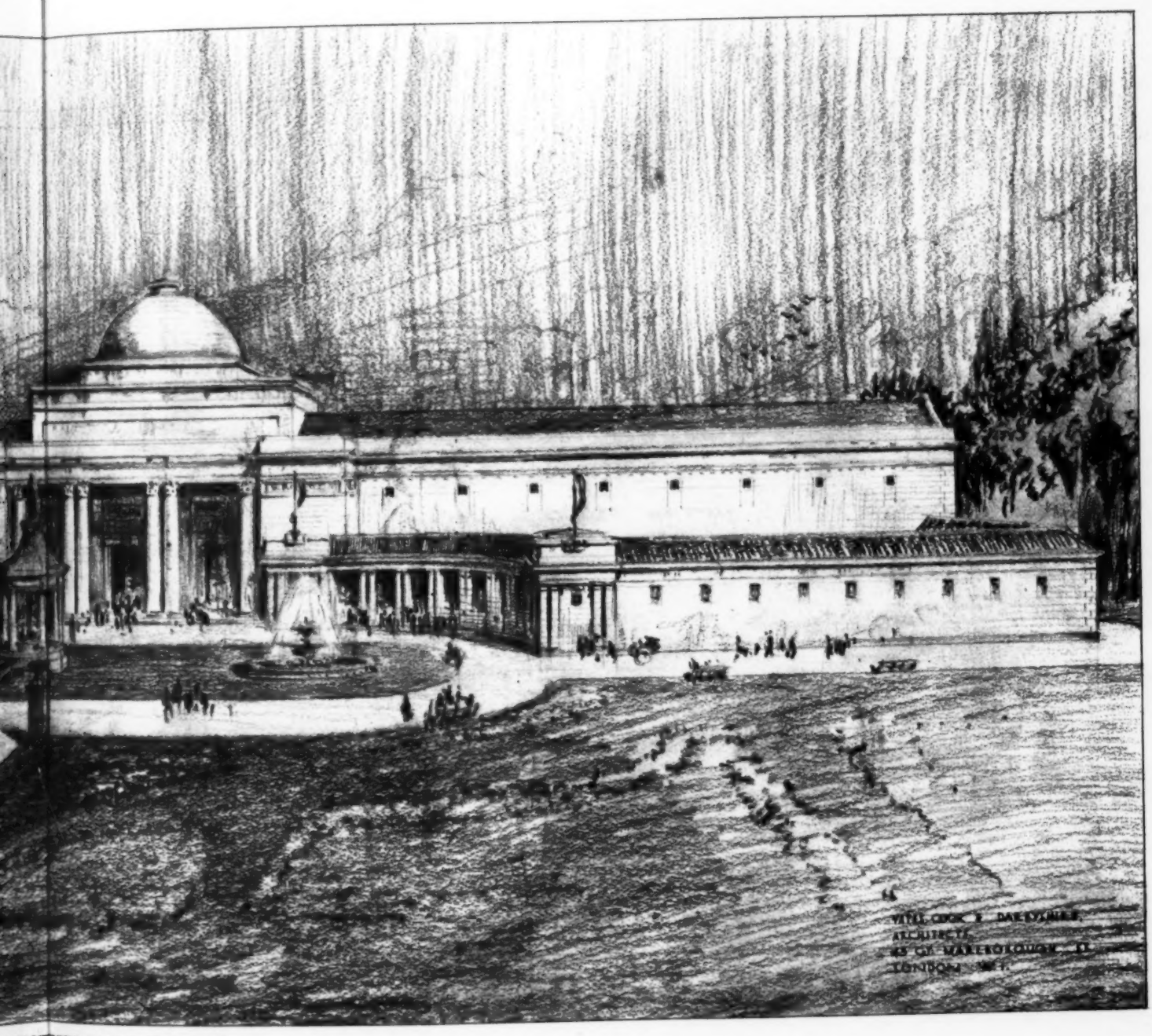
This design, by Mr. S. G. Chaplin, was awarded the "Concrete and Constructional Engineering" prize at the London University School of Architecture, 1928.

Bowes Memorial Church, Barnard Castle, Co. Durham.

This is an example of a small church designed on simple lines. Messrs. Dunn, Hansom & Fenwicke are the architects.

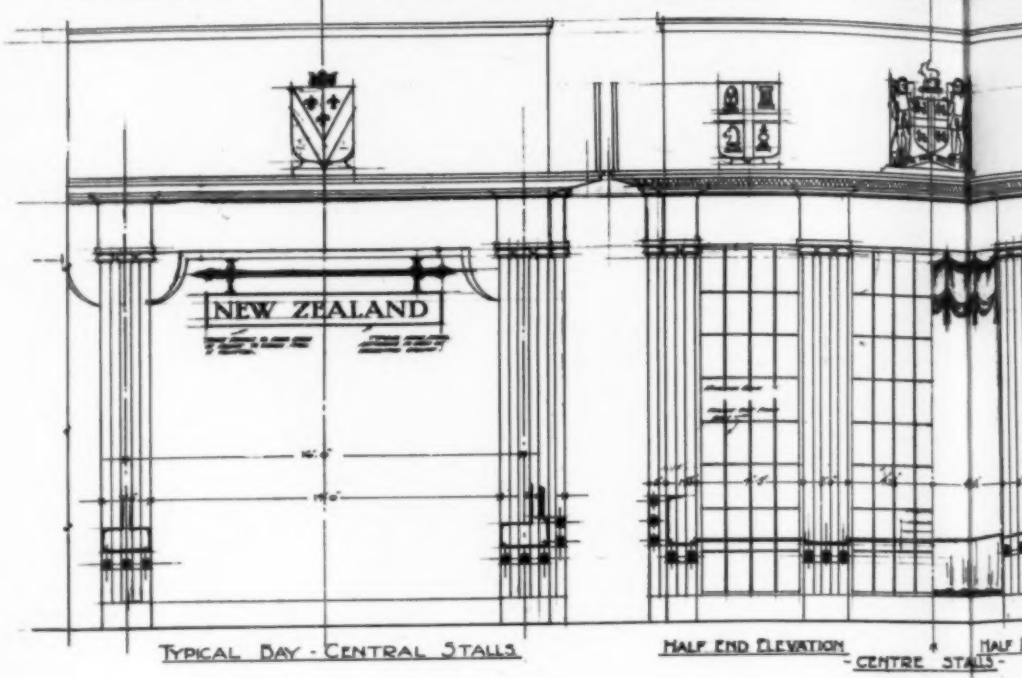


NEW SPA AT DROITWICH, W
Messrs. Yates, Cook & Darby



T DROITWICH, WORCESTERSHIRE.
, Cook & Darbyshire, Architects.

CANADIAN NATIONAL EXHIBITION - TORONTO, 1



TYPICAL BAY - CENTRAL STALLS

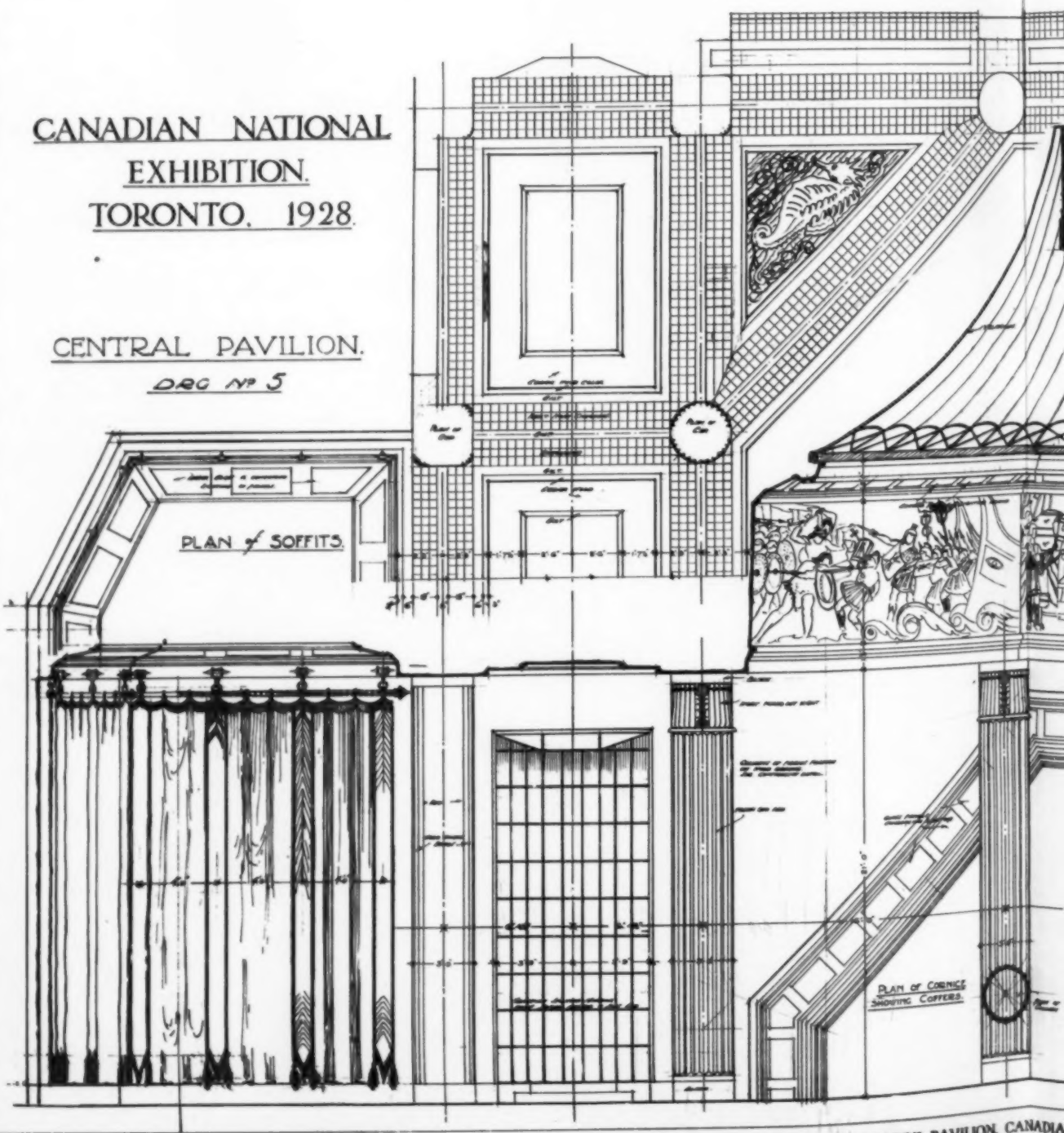
HALF END ELEVATION - CENTRE STALLS -

HALF

CANADIAN NATIONAL EXHIBITION. TORONTO. 1928.

CENTRAL PAVILION.

DRG Nº 5

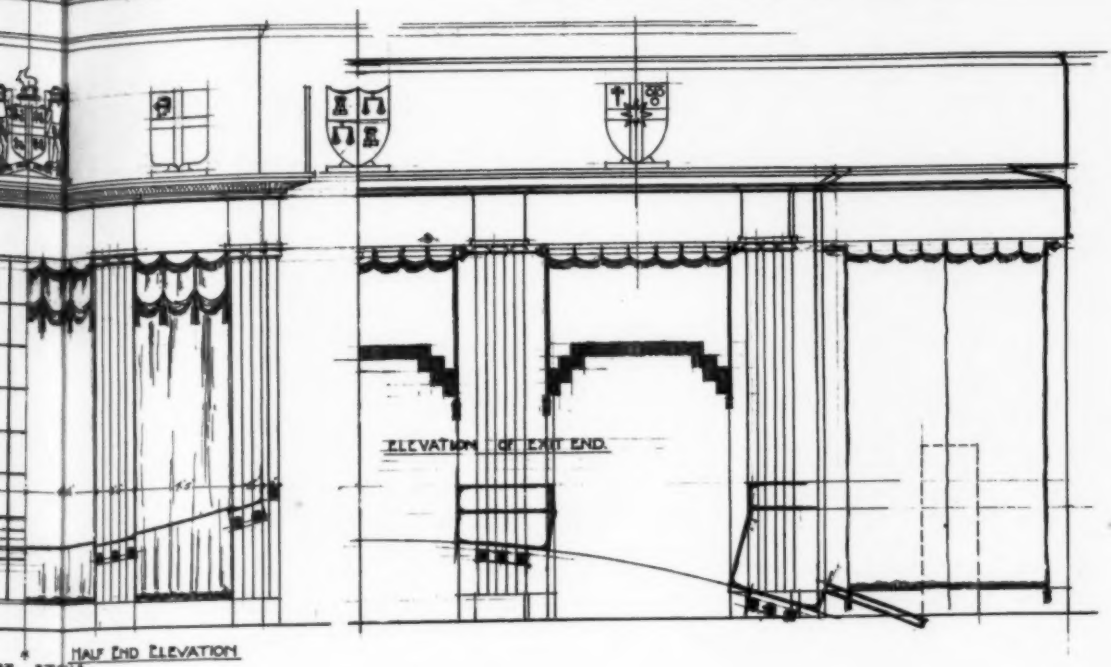


THE EMPIRE MARKETING BOARD'S PAVILION, CANADIA

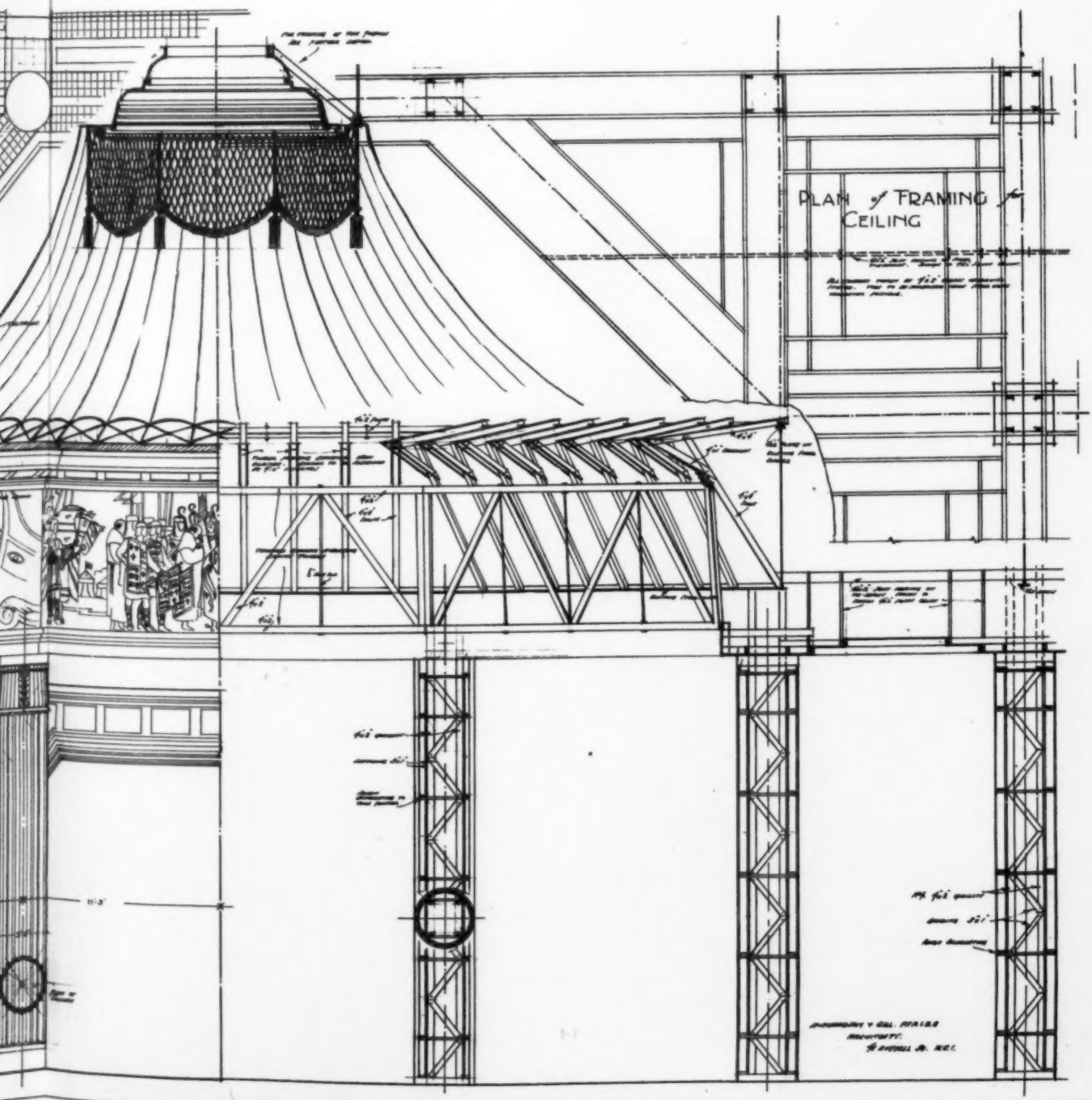
Messrs. Richardson & Gill, FF.R.

ONTO. 1928.

DETAILS of STALLS. DRG. Nº 4.



HALF END ELEVATION
RE STALLS.



N, CANADIAN NATIONAL EXHIBITION, TORONTO, 1928.
Gill, FF.R.I.B.A., Architects.

ELEVATION TO COCKSPUR STREET

SIXTH FLOOR

FIFTH FLOOR

FOURTH FLOOR

THIRD FLOOR

SECOND FLOOR

FIRST FLOOR

GROUND FLOOR

THIS HALF OF ELEVATION REVISED OCTOBER 1934

STONE BALUSTRADE ERECTED ABOVE MAIN CORNICE NOV. 1927

SUN LIFE OF CANADA BUILDING
COCKSPUR ST & PALL MALL EAST

STONE BALUSTRADE INSERTED ABOVE MAIN CORNICE NOV. 1927

SUN LIFE OF CANADA BUILDING
COCKSPUR ST & PALL MALL EAST
LONDON, ENGLAND

DRAWING NO 403 — 4 FEET = 1 INCH

DATE 16/NOVEMBER 1927

SEPTIMUS WARWICK — ARCHITECT
13, SOHO SQUARE, LONDON, W.1

GROUND-FLOOR PLAN—COCKSPUR-ST.

TENANT-Nº-2

TENANT-Nº-1

NOTES:

NEW OFFICES FOR THE SUN LIFE ASSURANCE COMPANY OF CANADA, COCKSPUR STREET, S.W.

Mr. Septimus Warwick, F.R.I.B.A., Architect.

New Offices for the Sun Life Assurance Company of Canada, Cockspur Street, S.W.

MR. SEPTIMUS WARWICK, F.R.I.B.A., Architect.

First-Floor Hall.

Entrance Hall, Ground Floor.

New Offices for the Sun Life Assurance Company of Canada, Cockspur Street, S.W.

Mr. Septimus Warwick, F.R.I.B.A., Architect.

New Offices for the Sun Life Assurance Company of Canada, Cockspur Street, S.W.: General View.

Mr. Septimus Warwick, F.R.I.B.A., Architect.

CENTRAL HALL, LOOKING TOWARDS CIRCULATING CORRIDOR.

HALL AND NICHE.

The Empire Marketing Board's Pavilion, Canadian National Exhibition, Toronto, 1928.

MESSRS. RICHARDSON & GILL, FF.R.I.B.A., Architects.

OCTAGONAL HALL.

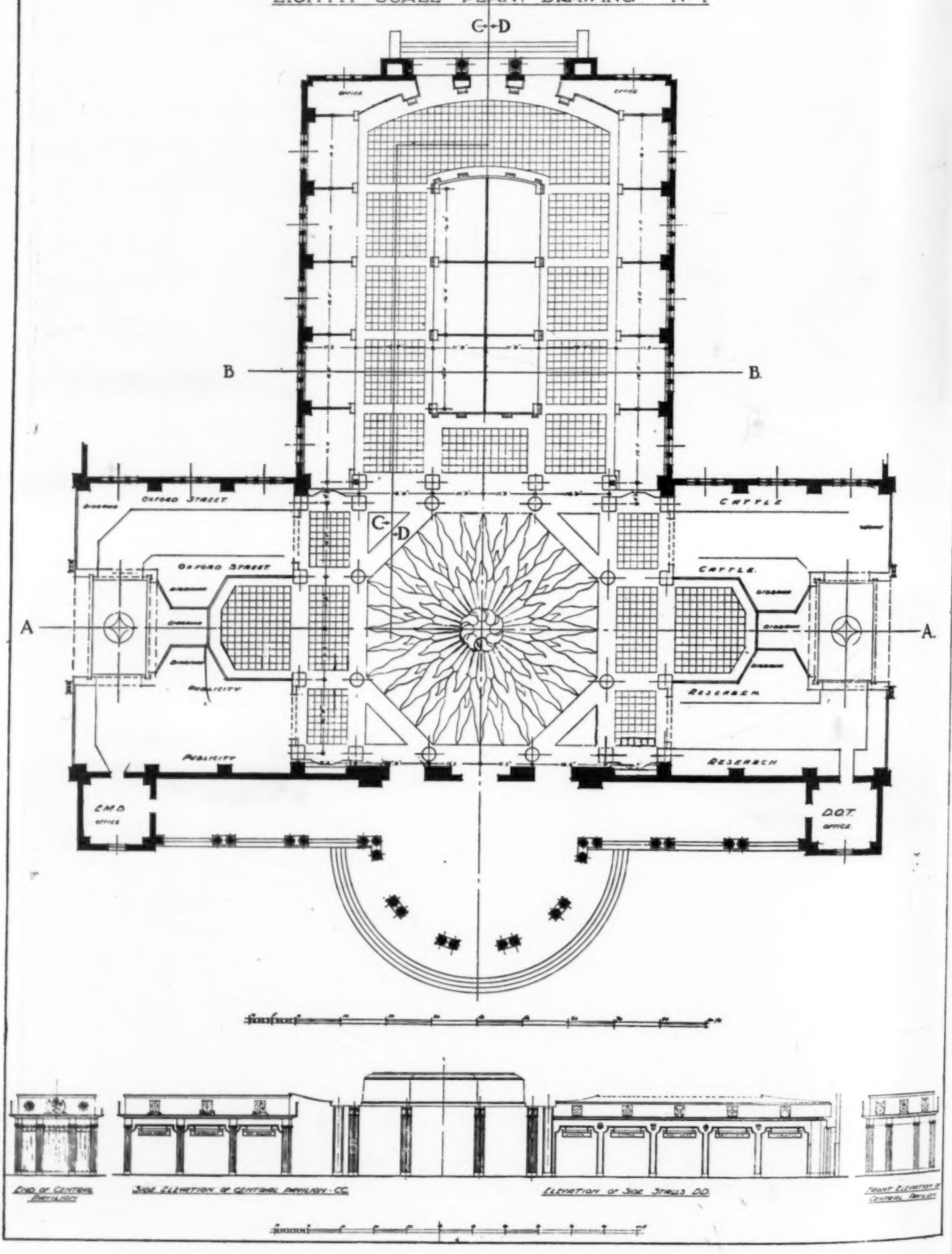
DETAIL OF COLUMNS.

The Empire Marketing Board's Pavilion, Canadian National Exhibition, Toronto, 1928.

MESSRS. RICHARDSON & GILL, FF.R.I.B.A., Architects.

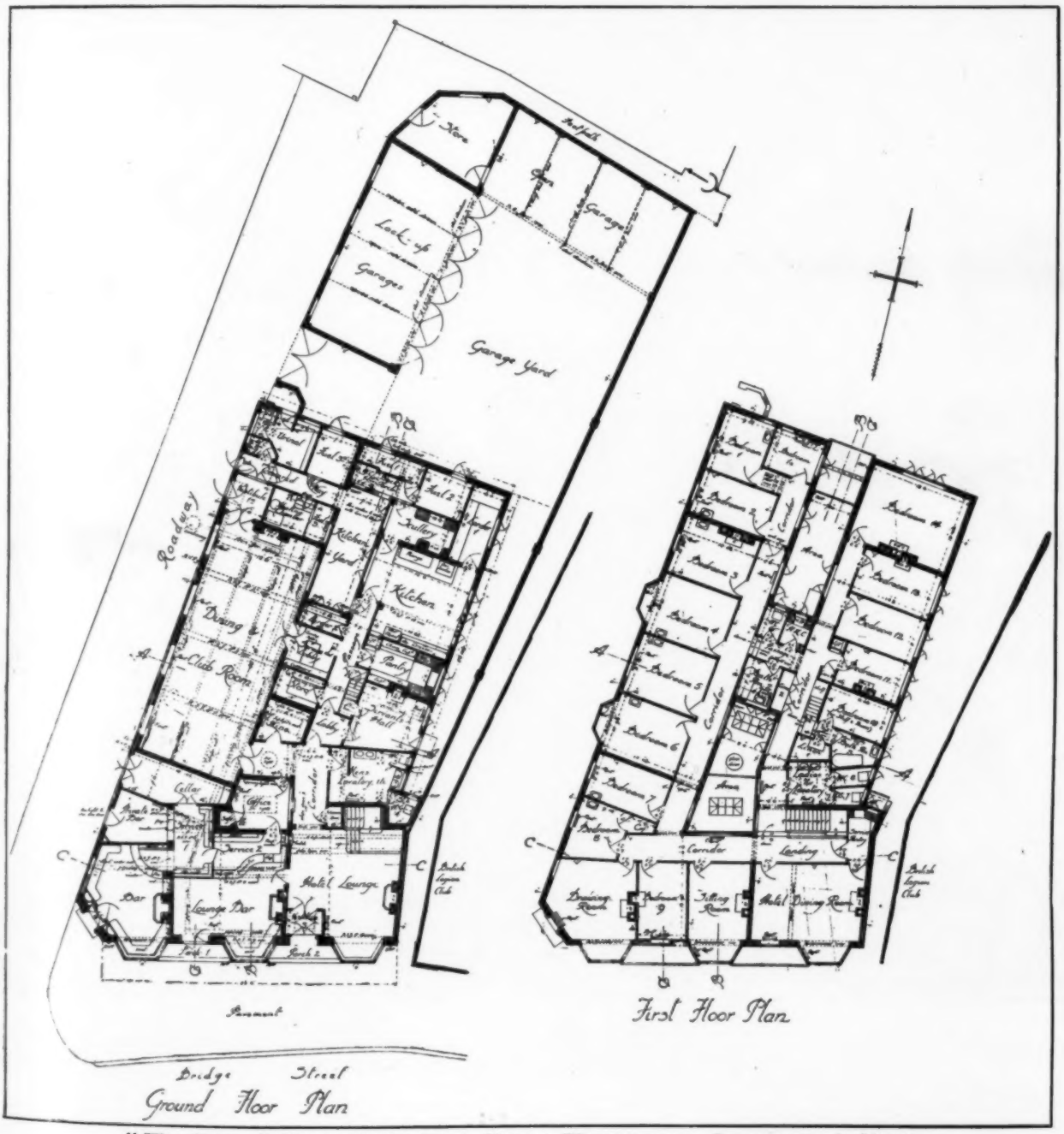
CANADIAN NATIONAL EXHIBITION · TORONTO. 1928.

EIGHTH SCALE PLAN. DRAWING Nº 1

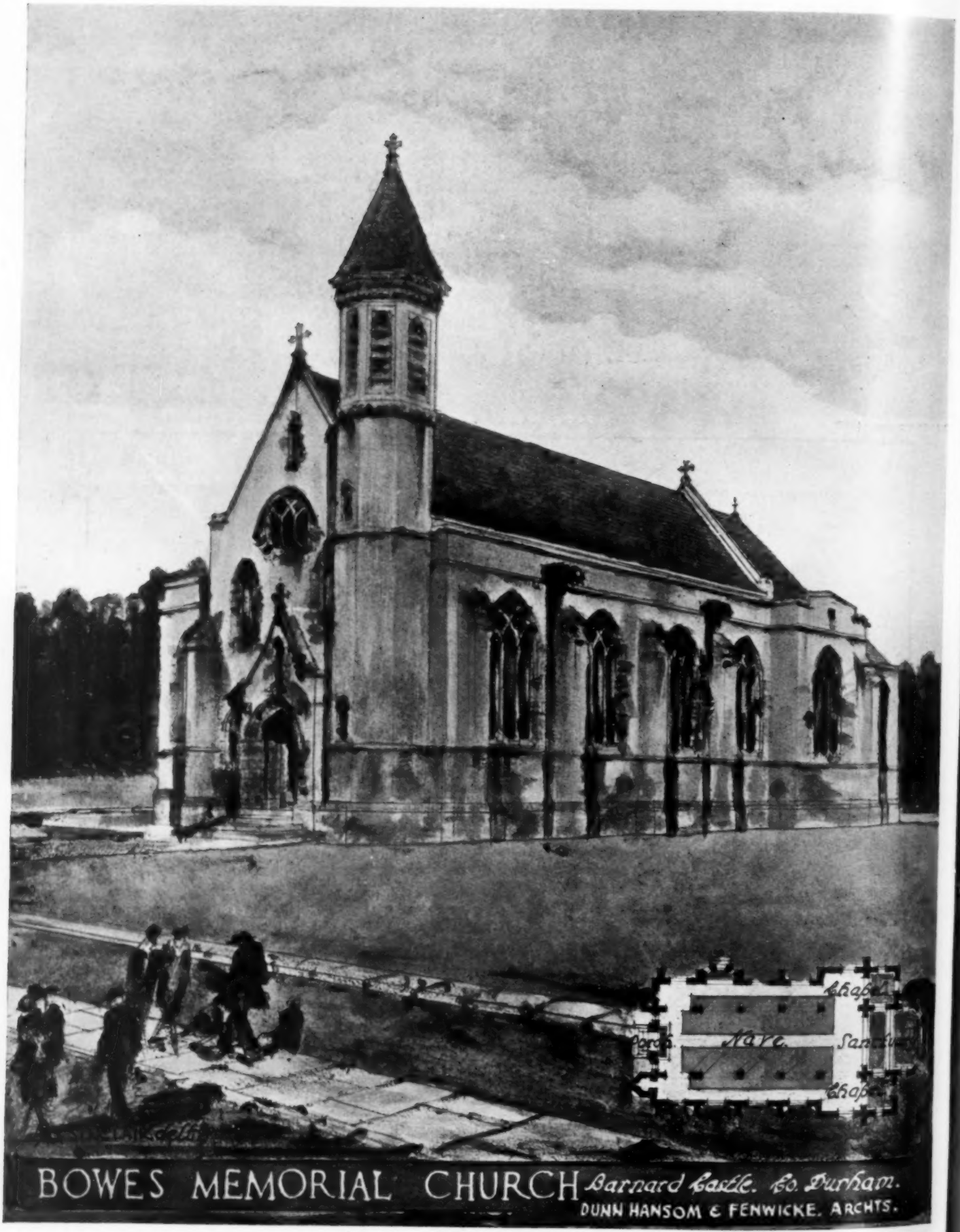


MESSRS. RICHARDSON & GILL, FF.R.I.B.A., Architects.

R.A. EXHIBITION, 1928.

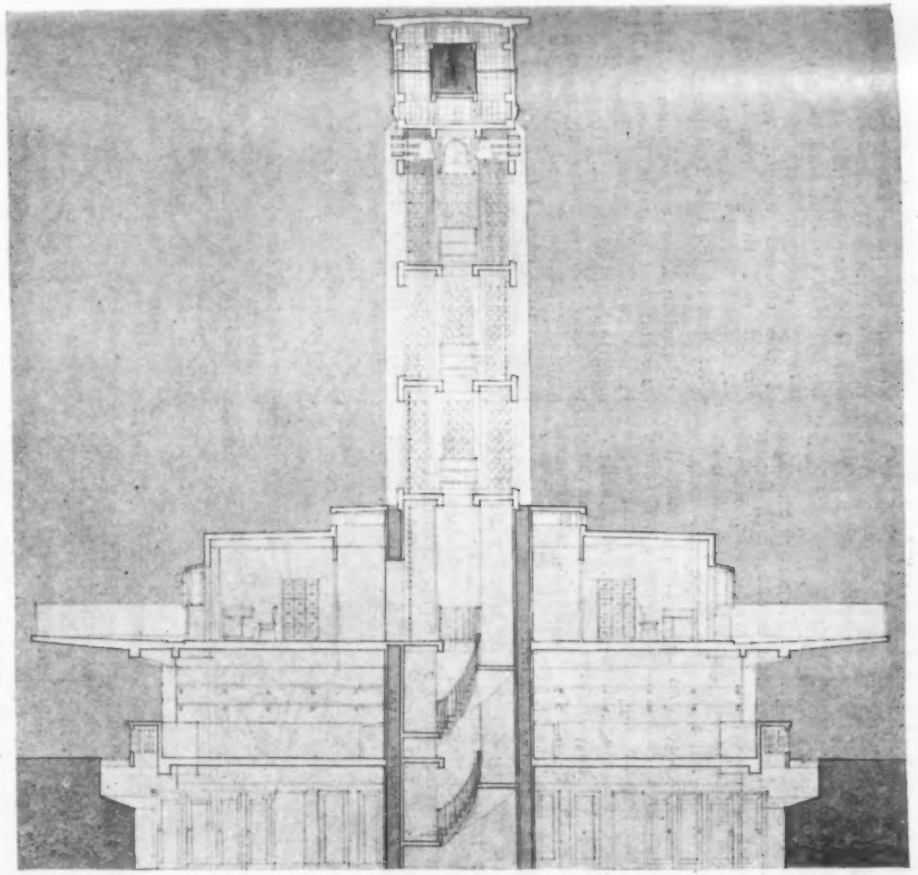


"The Crown" Hotel, Maidenhead. MESSRS. WILLCOCKS AND GREENAWAY, Architects.

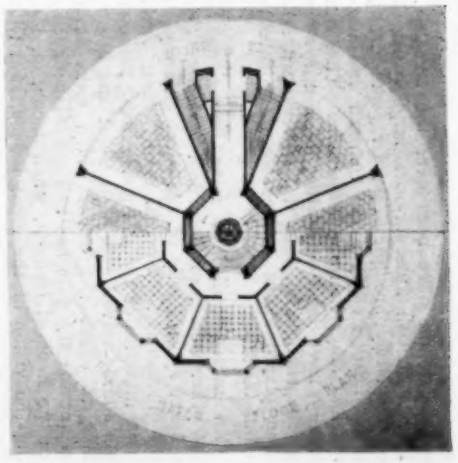


Messrs. Dunn, Hansom & Fenwicke, Architects.

ELEVATION.



SECTION.



A Clock Tower in Reinforced Concrete : Winning Design.

By MR. S. G. CHAPLIN.

The London University School of Architecture.

ARCHITECTURE, NATURE AND MAGIC—IX

SUN GATES.

BY W. R. LETHABY.

IN the description of an early Babylonian temple built by King Gudea (*c.* 2400), which was referred to before, the doors are said to have been guarded by statues of heroes and monsters, while an emblem of the sun god was set up facing the rising sun. This symbol would have been over the entrance. In the British Museum is a large panel of copper lately brought from Ur representing a lion-headed eagle flying forward and seizing two stags in its strong claws. This can hardly have been any other than a symbol of the rising sun, and it has very properly been placed above a doorway. Its date is about 3000 B.C.

As sacred buildings were imitations of the other world, so their doorways were significant symbolically of the great gateway in the firmament. Several Babylonian seals have intaglios of the sun god passing through the double-valved gate of the east and beginning to climb the world which rises as a mountain; the gate has two guardian figures. In the Book of Genesis, when Jacob, on seeing the vision of the great ladder, said that the place was the gate of heaven, it was meant as more than a poetic phrase. The author of the Book of Enoch writes as follows :—

"To the east I perceived the extremities of the earth where heaven ceased. The gates of heaven stood open and I beheld the celestial stars come forth. I numbered them as they proceeded out of the gate one by one. I advanced towards the north to the extremities of the earth. I saw there three gates opening into heaven. The northern winds proceed from them. From one of the gates they blew mildly, but from the two other gates with violence. From thence I went to the extremities of the world westwards, where I perceived three gates. Then I proceeded to the extremities of the earth southwards where I saw three gates from which issued dew, rain, and wind. . . . I beheld the gates where the sun goes forth and the gates where the sun sets, in which also the moon rises and sets. All are on a level; and numerous windows are on the right and the left."

Professor Elliot Smith has been impressed by the remarkable feature of Egyptian architecture which is displayed in "the tendency to exaggerate the door-posts and lintels until in the New Empire the great temples become transformed into little more than monstrously overgrown doorways and pylons." He also points out "the profound influence exercised by this line of development upon the Dravidian temples of India and the symbolical gateways of China and Japan. . . . They represented the means of communication between the living and the dead, and, symbolically, the portal by which the dead acquired a re-birth into a new form of existence. It was presumably for this reason that the winged disc as a symbol of life-giving was placed above these doors."

Palace doors also symbolically represented the gate of the sun. Maspero, describing a Pharaoh issuing from his palace to go to the temple of Amen to consult the god writes :—"The large folding gates of the palace are thrown open and the King drives through them at a gallop, or to use the correct expression, shows himself under the gateway of lapis-lazuli like the sun when he rises in the morning in the eastern horizon of heaven to inundate the world with his glory."

From the sixth dynasty at least it was customary for Egyptian builders to place the sign of the sun — a winged disc — over every temple gateway. Ra had ordered that the symbol should be set in sacred places for the banishing of evil. A winged symbol is found also in Phœnicia "where it was similarly used to consecrate the lintels of temple buildings." The general form was an eagle with spread wings, such as one which Renan found and described. A well-known example is the soffite of the great lintel at Baalbek. On either hand of the eagle are usually figures of two genii. "Throughout the Syrian area Azizos and Monimos are found as the regular supporters of the solar eagle carved on the soffites of sacred lintels" (*Zeus*). These figures are the heavenly twins, the Dioscouri. Continuing his account of the solar eagle, Dr. Cook says :—"The symbol has two main varieties in Mesopotamian art. One a disc or wheel with wings and tail; the other a half figure emerging from its centre. On sculptured slabs it is seen hovering above the King. Mounted on a pole, it was borne as a standard. From Assyria both varieties passed into Persia."

FIG. 1.

A similar symbol appears in Hittite sculptures in situations which show it had a consecrating or magical power. It was also represented in simplified forms, and some of these—especially signs which appear in the Hittite inscriptions — are so like the mysterious double rosettes of Minoan art that I cannot doubt that these were also derivatives of the winged disc and had magical properties. The symbol of the "displayed" eagle or the winged disc in association with gateways spread into India, China, and Japan. In mediæval Persia the bird was the "Roc," in China it was the Phœnix (Feng.). On the Japanese temple gate in Kew Gardens a solar phœnix is at the centre of the lintel.

"In pre-Columbian America, as in Egypt, Phœnicia, and Western Asia, the winged disc was placed on temple door-lintels" (Mr. D. A. Mackenzie).

A variety of the same tradition was followed in the West. The Acroterion of the pediment of the seventh century B.C. temple of Hera at Olympia was a great disc of terracotta over seven feet in diameter. Fig. 1 is from a Greek vase. In Roman works the chariot of the sun often occupied the pedimental space or surmounted it as an acroterion. "When we remember the Egyptian

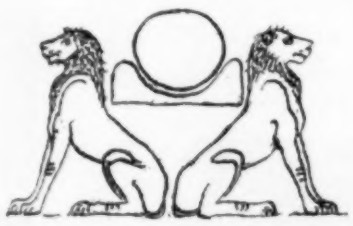


FIG. 2.

custom of putting the solar disc over every sacred doorway we shall be emboldened to assign a solar origin to the circular shield so often found in representations of pediments. The device was from the first intended to serve a practical purpose—that of safeguarding the edifice" (*Zeus I., p.* 292).

The gates of the sky required guards. In Egyptian representations of the rising sun on many papyri it is shown appearing between two mountains which are guarded by a pair of giant lions (Fig. 2). Guarding lions, as we have seen, were widely adopted in architecture. Hittite fortresses had pairs of such lions at the gates, or occasionally pairs of standing sphinxes. The two ramping beasts of the Lion Gate at Mycenæ are closely related to these city guardians, and obviously magical. In Dr. Hall's recent book on Assyrian sculpture it is plainly brought out that the purpose of the colossal winged creatures was to affright evil things from entering at the gates—they were akin to the guardian Cherubim of the Old Testament.

Guardian lions are common in Indian art. Some original examples from the Topes are in the British Museum. They are also frequently found in China. The gates of Chinese temples are more commonly guarded by two giants, "Snorter" and "Blower." "The functions discharged by Hêng and Ha at the gates of Buddhist temples are in Taoist temples discharged by the Blue Dragon and the White Tiger." These latter, as we shall see, are two of the regents of the cardinal points. In modern China it is customary to post up pictures of guardians by the doors of houses at the New Year (Werner). Would not the enigmas of the Sphinx have been inquiries for the passwords to the other world?

In front of the chief doors of temples were usually foregates or pairs of pillars. The obelisks of Egyptian temples were sacred and had offerings made to them. In the *British Museum Guide* we are told that

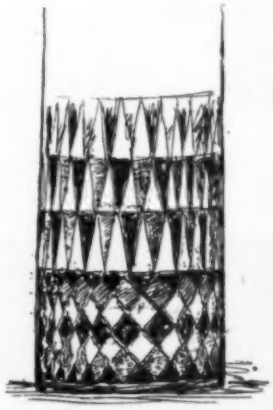


FIG. 3.

"they were probably connected with a solar or other cult." They were doubtless in some sense boundary stones and sky pillars. The Obelisks at Karnac, set up as memorials to Thothmes I, appear from an inscription to have been gilded. (See Englebach, *The Problem of the Obelisks.*)

In a section on "The Supports of the Sky personified," Dr. Cook brings together in *Zeus* many references to twin pillars. Among these were the pillars of burnished brass made for the forefront of Solomon's temple. "The names given to them—*Jachin*, 'He will establish,' and *Boaz*, 'in Him is strength'—imply that they were in some sense personified supports, though still aniconic in shape. And their original character as sky pillars has been detected by R. Eisler."

The very ancient temple at Ur of the Chaldees, which has recently been explored, was seated on a high rectangular mass, from which projected a long flight of steps. At the top of this was a free-standing gateway consisting of a pair of slender columns incrusted with mother-of-pearl and other materials which suggest the stem of a palm tree (Fig. 3). The explorers thought that these posts probably carried a beam. There was some deeply felt motive which from very early days led to the setting up of pillars and beams in front of entrances and at sacred sites. The custom was widely spread and continued long. Doubtless such pillars and beams marked the boundary of more sacred

ground, they were at the same time symbolical and protective. The symbolical doorways represented in the pyramid age in Egyptian tombs had a curious round bar across the top of the opening, usually explained as a curtain roller.

I give, in Figs. 4 and 5, sketches of gateways

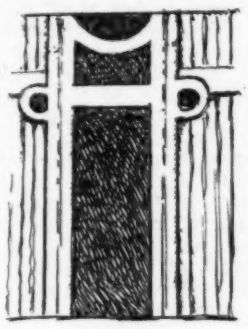


FIG. 4.

from reliefs dated c. 3000 B.C., also found at Ur. One represents the doorway of a shrine, and the other is the gate of an enclosure or town, from which cattle are issuing. Both of these make much of beams.

These remarkable gates are described as "flanked with spears and adorned with the peculiar side loops familiar to us from later Sumerian buildings; above is a sort of crescent which may be derived from the sacred horns." I cannot offer any conjecture satisfactory even to myself of the curious ear-like loops at the sides, unless it be that they were ears indeed, and that the door was a mouth, as we say "the mouth of a tunnel." It occurs to me that the "trusses," as I believe we call them, which we in our silly way put up by door cornices, were in the Erechtheum accounts called "ears." They were of Ionic and hence of Asiatic origin, and they are of ear-like form. They do not seem to have had any constructive function and were often hardly bonded into the wall. It may be in connection with the same tradition that the ends of the lintel often overlapped the jambs of the architrave in what seems an exaggerated manner, the mouldings turning down in a curve. Is it possible that the overlapping ends of the door-head over the "mouth" were ears?

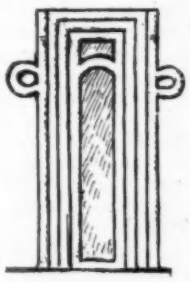


FIG. 5.

This is very conjectural indeed, but there must have been some thinking in the matter which drawing-board designers are unaccustomed to. (See a Hittite monument in Daremberg and Saglios' Dictionary under *Gorgon*.)

After this digression on ears I return to palm trees at gates. The early Babylonian tablet at the British Museum showing the god Shamas enthroned in a shrine or temple has its open front carried by a column, and the "markings upon it suggest the trunk of a palm."

At Nineveh, Place, the explorer, found "fragments of round cedarwood almost as thick as a man's body cased in a bronze sheath resembling the scales of a fish; comparing these with the bas-reliefs we can see that the sculptors [of those] meant to represent palm bark." The fragments of bronze sheathing were gilt. They are illustrated by Perrot. According to Maspero, full imitations of palm trees with long branches were set up on either sides of doorways in Assyrian palaces.

We are told of the ideal temple described by Ezekiel that :—"there were thick beams of wood before the porch without . . . and there were palm trees on the one side and the other side." The palace of Solomon described in 1 Kings seems to have had similar beams. A paper has just been read before the Congress of Orientalists at Oxford by Dr. Morganstein dealing with the legends attaching to the Eastern gates of the Temple of Jerusalem. I want to see that paper very much—there is a mystery about those ceremonial gates.

From these analogies it is next to proved that the pair of useless and much-ornamented pillars at the doorway of the Treasury of Atreus represented sacred trees or columns. This great doorway was of highly polished marble, grey-green and red, and some parts of the carved spiral-work were inlaid with blue glass discs. In his recent excavations, Mr. Wace found fragments of gold and ivory under the threshold and thought that the door was probably inlaid with these materials. It was altogether a marvellous — a magical work. Anderson and Spiers well observe that this splendour "may have had some symbolical significance as the gate and barrier of the silent land."

It was said above that these pillars were ornamental and apparently supported nothing beyond some sort of blocks above their capitals. It is just possible that isolated beams rested on them. In front of the long passage of approach was probably a foregate. Our coarse, dull way of thinking of such amazing things as the Treasury of Atreus as examples of "architectural design" has almost obscured their wonder and romance.

Syrian and Anatolian temples had important foregates of a curious beamed type: Fig. 6 is from a coin of Pergamon, which

FIG. 6.

represents the temple of Aphrodite Paphia with its sacred cone, pylon, a pair of great candelabra, and a semi-circular court in front. The cone seems to symbolise the earth mother. This "pylon" with its beams resembles both the ancient Sumerian foregates and those of Buddhist topes.

Dr. A. B. Cook in *Zeus* brings together many references to such pillared gates. Writing of Hellenistic reliefs of gateways associated with sacred trees he observes :—"It seems legitimate to conjecture that this gateway or arch at first denoted the sky itself resting on supports. Such a supposition helps us to understand representations of the Dioscuri in Etruscan art. Their *dokana* are seen to be the 'beams' of the world—its pillars and ceiling—and they are the humanised side-posts which naturally enough have between them a tree or column, and above them a starry pediment." He illustrates several examples and describes one as "a doorway which we have taken to denote the sky resting on its side supports."

In a section on the Heavenly twins Dr. Cook points out their association with doorposts. "Further examples unite the twins by means of two or three crossbars. These designs recall the 'beams' of the Dioskouroi as described by Plutarch and figured on Spartan reliefs (Tod and Wace, *Catalogue of the Sparta Museum*, 1906). See a scaraboid from Melos showing two pillars linked together, a black stone showing two Egyptian pillars connected by a loop, etc. . . . As an object of religious significance this structure of two side-posts with connecting bars themselves sometimes connected by vertical ties is found over a wide area from west to east.

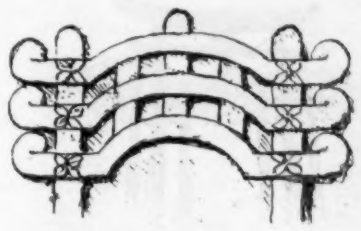


FIG. 7.

It is akin to the gateway which in the paintings of Pompeii turns a tree into a temple and to the *jugum* under which conquered troops were made to pass. It resembles the façade of the Temple of Aphrodite on coins of Cyprus. Further, it is very like the carved toran or portal of many an Indian tope. Closer still is its analogy to the *pailou* or memorial gateways of China and the countless torii of Japan. The possible connection of these types is a theme deserving investigation" (*Zeus I.*).

He illustrates several representations of the Dioscuri as twin figures facing one another and linked by bars, *dokana*. The twins are explained as the side-posts of a gateway which have become anthropomorphic. "Their *dokana* are simply the beams of the world—its pillars and ceiling. And they themselves are the humanised side-posts. . . . A doorway which we have taken to denote the sky resting on its side supports. . . ." (Compare Dr. J. Rendel Harris, *The Heavenly Twins*.)

The beamed foregate had an extraordinary development in all Asia, from Syria to Japan. In Buddhist India, pairs of free pillars are associated with the gateways of topes, and one of these monuments has a multitude of tall pillars set up around it which bore images of lions. The old Chinese pilgrim to India described a holy place thus: "A shrine with the door facing east and on each side a stone pillar; that on the left having at the top the figure of a wheel and that on the right the figure of an ox. It was named the Shrine of the Garden of Gold. The great courtyard has two entrances, one on the east, the other on the west."

The Buddhist topes had four beamed gates, one facing each of the points of the compass; parts of those at the Amaravati tope (*c.* A.D. 200) are in the British Museum. Fig. 7 is a sketch from a representation of a beamed gate which appears among the carvings of that monument. The upper part of such a gate, which has recently been added to the Boston Museum, U.S.A., is given in Fig. 8. The subjects

FIG. 8.

of the sculpture are more or less cosmical. The gates of this type, which are very numerous in China and Japan, are associated with sacred sites or buildings. According to Satow, "the Tori was originally a porch for fowls offered to the gods to give warning of daybreak" (Fig. 9).

FIG. 9.

"In China, in lieu of the pylon we have the 'spirit wall' that conceals the way in" (Spengler's *Decline of the West*). This screen is protective against evil spirits, and here, I think, we get near the meaning of many of the Torii and beamed gates we have

FIG. 10.

been discussing. Fig. 10 is from the beam of a Chinese town gateway.

Another point to be mentioned is the tradition of giving judgment in the Gate. In the Book of Kings we are told of Solomon: "He made the porch of the throne where he might judge, even the porch of judgment." In the palace ruins of Persia several porches of judgment have been found, and recently a ceremonial gateway discovered at Ur has, I believed, been described as a judgment porch. Many examples might be given, down to the Sublime Porte of modern Turkey. This term, we are told, came "from the gate of the Sultan's palace, where justice was administered: a French translation of Babi Ali, high gate."

We have seen that kings were gods and their palaces heavens. It was quite fitting that they should meet their suppliants "in the gate." With the gate of judgment may be compared the ceremonial arch set up near the throne in Indian palaces; this also must have been a gate of heaven. It is curious coincidence, and evidence of the congruity of customary things, that in mediæval churches the Judgment was frequently painted over the chancel arch and the rood beam passed in front of it. "The chancel arch has been likened to the gate of Heaven through which the faithful pass to the altar. . . . To emphasise this idea, the chancel arch in the church of Chalfont St. Giles is painted with battlements and oillettes" (Mr. J. C. Wall).

THE R.I.B.A.

The new session of the R.I.B.A. will be opened by a general meeting on Monday, November 5, at 8.30 p.m., when the President, Mr. Walter Tapper, A.R.A., will deliver his inaugural address, and the R.I.B.A. medal and diploma for a London building completed between 1925 and 1927 will be presented to Sir Giles Gilbert Scott, R.A., F.R.I.B.A., for "Chester House," Clarendon-place, W.2.

THE LAW OF ANCIENT LIGHTS

THREE cases have recently been decided relating to the right to ancient lights which have been reported in our Law Reports, but which will repay careful study. They are Maybury and Ware *v.* Spickernell (*The Builder*, July 6), Barnett *v.* London Co-operative Society, and Coutts *v.* Turner (*The Builder*, August 10).

With regard to Barnett *v.* London Co-operative Society, very few observations are necessary; the rooms in respect of which obstruction to light was complained of were very small rooms—a living-room and a kitchen—and the defence was that the interference with the light was trivial, but the Court held that the obstruction rendered the rooms less comfortable and created a "nuisance," and an injunction was granted. Only a very brief report of this case is available, and we can make no comment on this case in particular, but we make one or two general observations on the law. It clearly would be a mistake to consider that because the rooms are very small the *maxim de minimis non curat lex* will apply to any infringement of the rights of the owner or occupant. In the eyes of the law all men are equal, and the law is applied without favour, and the *maxim de minimis* has never been applied as regards the person or property of litigants. Then as regards the granting of injunctions in place of awarding damages, the nature and extent of the injury is an element to be considered, but it is a discretionary matter whether an injunction shall be granted or damages awarded and the Court to some extent considers the conduct of the parties. If a building is unduly hurried on and ample notice is not given to the person affected, the result may be that an injunction will be granted where otherwise damages might have been awarded, whilst, on the other hand, as we shall show, the conduct of the plaintiff is also taken into consideration. We alluded to this question in our tenth and eleventh articles on "Light," July 10 and 17, 1925, where we were explaining the principles on which the Courts acted in granting injunctions or awarding damages, and quoted the opinion of Lord Macnaghten in Coll's case to the effect that if the defendant has acted in a high-handed manner or endeavoured to steal a march upon the plaintiff or to evade the jurisdiction of the Court, then an injunction may be necessary not only to do justice to the plaintiff but as a warning to others. We refer to this point here because the matter has been carried further by the decision of the Court of Appeal in Maybury *v.* Spickernell. There the Court found that there had been no rushing up of the obstruction by the defendants and that they had approached the matter properly and in a reasonable spirit, but that the plaintiffs had been dilatory in taking proceedings and therefore there was no question of granting an injunction, but the plaintiff's right should be limited to damages.

In other respects the decision in Maybury *v.* Spickernell is an important decision, because in the Court below the learned judge, directing himself as a jury, found it difficult in applying the directions laid down in Back *v.* Stacey (1826, 2 C. & P. 465) and Coll's case (1904, A.C. 179) to distinguish between what he termed a partial inconvenience and a real injury, and on the facts of that case he came to the conclusion that actionable injury had not been sustained. The facts of the case appear to have been that No. 69, Bradford-road, Southsea, was a small house at the end of a terrace comprising a front parlour and a back parlour, then, in an extension which was only half the width of the house, a kitchen and a scullery. This kitchen had been converted into a living-room, and the scullery was used as a kitchen, and the windows of these two rooms, being at the end of the row of houses, looked over a large garden. At the other end of the garden abutting on Bradford-road, where it joined another road, Victoria-road, there were two villas, and abutting on this site in Victoria-road there was a Baptist Chapel. The defendants had acquired this site, the garden and villas, and in October, 1927, had commenced to build a cinema upon it. The structure complained of was a wall which was some 30 feet higher than the original garden wall placed at the distance of 9 ft. 9 in. from the plaintiff's house and co-extensive not only with almost the whole of the house but of the site of the garden also, and this was not the highest portion of the cinema. The plaintiffs appealed to the Court of Appeal from the above judgment, and the Court of Appeal, applying the rules laid down in the two cases we have referred to above, came to the conclusion that this was not a case, as the judge below had found, of mere partial inconvenience, but that real injury was sustained and the premises were rendered uncomfortable for occupation.

As regards the direction laid down in the above two cases we explained them in our sixth article on "The Law of Light," June 12, 1925, and the statement in Back *v.* Stacey was accepted by the Court of Appeal in Maybury's case as representing the effect of both cases. We repeat that statement here: "It is not sufficient to constitute an illegal obstruction that the plaintiff had in fact less light than before, nor that his warehouse, the part of his house principally affected, could not be used for all the purposes to which it otherwise might have been applied. In order to give a right of action and sustain the issue there must be a substantial privation of light sufficient to render the occupation of the house uncomfortable and to prevent the plaintiff from carrying on his accustomed business as a grocer on the premises as beneficially as he had formerly done." It was added in that judgment that it might be difficult to draw the line, but the jury must distinguish between a partial inconvenience and a real injury.

We think the observations of the Court of Appeal in Maybury *v.* Spickernell on the evidence will be of assistance in showing how the Court approached this case. In the first place the Master of the Rolls attached great importance to the evidence of the architect, who had told the Court that the question of ancient lights was present to his mind when he planned the building to the site and he had avoided putting the building near the Baptist Chapel, as, if he did so, he had felt that an injunction would be granted, and he had considered the question of the house in question and had come to the conclusion that the building might damage the room that was a kitchen, but not to any great extent. It may be mentioned here that the window of the room that was a kitchen was not the only one that was held affected, but there were windows to other rooms, both down and upstairs affected.

The next point we desire to draw attention to is that it was urged that as this was the end house in the terrace, another house beyond it might have been built and the light interfered with. Evidence was given that even if such a house had been erected the obstruction would have been nothing like that occasioned by this wall, but the Master of the Rolls pointed out that such a contention was inadmissible as a defence. If some other house had been erected the plaintiffs might have taken steps and then the owner of that house would have had to show no actionable nuisance was caused, but the Court could not accept as a defence what was a mere matter of speculation what would have happened if another house had been built.

Then it was suggested that as other houses, not end houses, in the terrace which enjoyed less light were occupied, and occupied at the same rent as the plaintiffs, it might be assumed that the house would not lack a tenant and therefore no injury had been caused. The Master of the Rolls indicated that it was a wrong principle to suggest that because other houses in this area were not

so well lighted the amenities of a house better lighted can be reduced to the same level, and we may point out that this was decided by a Court of first instance in Horton's Estate *v.* Beattie (1927, 1 Ch. 75), a case we noted in a recent article (June 8), where it was laid down that it cannot be said no actionable wrong has been suffered because other houses in the district are also inadequately lighted. There is only one other point of the same nature to be noted; the trial judge had commented on the fact that the plaintiffs had two parlours and were continuing to use the kitchen as a parlour and if that room was rendered as uncomfortable as they alleged they could have transferred the sitting-room back to the other room, but the Master of the Rolls said that if this was the principle underlying the judgment it was a wrong principle, as to establish actionable injury it was not necessary to prove that the premises had become "unbearable" but only that they were rendered permanently uncomfortable and inconvenient. The Court pointed out that *a priori* and apart from the evidence a wall 30 feet above the garden wall and 9 ft. 9 in. from the windows extending throughout the length of not only the house but also of the garden must prove an obstruction, but that having regard to the evidence, not only of the occupants but of others including the experts, and the degree of obstruction which left but 19 degrees, the plaintiffs had made out their case and the judgment of the Court below must be reversed.

The plaintiffs were the owners of the house and their tenant a monthly tenant but protected by the Rent Acts, and the Court of Appeal assessed the damages at £200 for the owners and £50 for the tenant. We have already referred to the point as to an injunction. With regard to the damages we may mention one small point. It was contended that when the cinema was completed someone connected with it would require either to buy the house or to occupy it in connection with the building, and thus the cinema would enhance its value, but the Master of the Rolls said that if the cinema caused a betterment that would go to the owner of the house and could not be claimed by the defendant as a set-off against his wrong-doing.

The last case we have to notice—Coutts *v.* Turner, tried by Mr. Justice Eve in July last (see *The Builder*, August 10)—is an extremely important decision, as it is one of the first cases to be decided since the decision of the House of Lords in Coll's case, where windows or apertures possessing ancient lights have been enlarged. The action was brought by reversioners in respect of obstruction to windows on the ground floor of certain premises in Grape-street, Bloomsbury. There had been originally a stable and warehouse with certain apertures which possessed ancient lights. The plaintiffs had rebuilt the premises about the year 1908 and had enlarged these apertures, and in some of the windows which they had put into this wall had incorporated the ancient lights acquired by the old apertures. The defendants in order to prevent the plaintiffs from acquiring prescriptive rights of light to the new windows had erected a screen which of necessity had the effect of cutting off the light acquired in respect of the old apertures, and the plaintiffs brought this action to have the screen removed, for although it was admitted that the defendants had the right to prevent the plaintiffs from acquiring prescriptive rights to the light to the new windows, it was contended that as they could not cut off the light to the new windows without also cutting off the ancient lights in respect of the old apertures there was an infringement of the rights of the plaintiffs. No doubt this contention was based upon the case of Tapling *v.* Jones (1865, 11 H.L.C. 290), where it was held that the defendants in that case had no right to obstruct ancient lights even though new windows could not be obstructed without this result. In Colls *v.* Home and Colonial Stores (*ubi sup*), however, Tapling *v.* Jones was the subject of criticism, and we dealt with this question at some length in our sixth and eighth articles on "Light," June 12 and 26, 1925. In Colls' case it was shown that for some time there was a divergence of opinion in the Courts as to the amount of light that could be acquired by prescription—one view being that all the light coming to the aperture could be claimed, whilst the other view was that the right is limited to a certain amount of light. In Colls' case the first view was held to be erroneous, and its origin was to some extent attributed to certain dicta delivered in Tapling *v.* Jones, and the true view was expressed to be that a nuisance must be proved, that is, that it must be shown that the obstruction rendered the premises uncomfortable and less convenient. It follows from this that such an obstruction as was the subject of decision in Tapling *v.* Jones is not, as was held in that case, actionable in itself, but that in all cases, be they cases where the aperture has been altered or not, for an action to succeed nuisance must be proved and, as we have said, Coutts *v.* Turner appears to be one of the first cases in which this principle has had to be applied where ancient lights have been incorporated in larger apertures. The method in which the Court approached this question was to compare the quantitive amount of light taken away by the blocking up of the ancient lights with the light that was left, and making this comparison it was found that the plaintiffs would enjoy a considerably larger amount of light than would be abstracted by the complete obscuration of the old lights, and therefore no actionable wrong was shown.

It may be observed that this is a comparatively simple case, and for this reason, since here the new lights had existed without interruption for a period approaching 20 years until this screen had been erected and therefore, apart from the dispute in this action, they would be secure for the future, and the learned judge approached the question as follows: "I think it is now settled law that when the position is such as one encounters here—a room lighted in the main by windows in respect of which no prescriptive right has been obtained and in part by old apertures in respect of which prescriptive rights have been obtained—one is bound to take into account the whole of the light which is furnished to the room, first of all by the new windows *in so far as they are capable of becoming prescriptive rights.* In that connection we have to remember here that the new lights in this particular room or office have existed subject only to such interference to them as has been brought about by the erection of this screen for a period which will secure them for the future. . . ." This seems in accordance with the dictum of Lord Lindley in Colls' case, which we set out in our sixth article, June 12, 1925: "As regards light from other quarters such light cannot be disregarded for, as was pointed out in Dyers Company *v.* King (1870, L.R. 9 Elu. 438), the light from other quarters and the light the obstruction of which is complained of may be so much in excess of what is protected by law as to render the interference complained of non-actionable. I apprehend, however, that light to which a right has not been acquired by grant or prescription and of which the plaintiff may be deprived at any time ought not to be taken into account." In the case under consideration it will be observed the new lights were in fact secure, and therefore the light derived from them could be taken into consideration, but the really difficult cases will be those where no secured right attaches to the apertures as enlarged.

As the plaintiff, however, can only claim the light he has acquired by prescription in respect of the old aperture, it may be extremely difficult for him to show, where the windows have been enlarged, that he is receiving less light than that he has obtained by prescriptive right through the old aperture, so thus in practice the difficulty indicated may rarely, if ever, arise.

ARTS AND CRAFTS EXHIBITION SOCIETY

THE 14th Exhibition of this Society is now on view at the Royal Academy, occupying four of the rooms. The display is much the same as in former years, but the harvest is poorer, and there is very little that is vital to craftsmanship to-day. In point of accomplishment, the exhibition compares unfavourably with the annual exhibitions of the Central Schools, so lacking in freshness and vitality is much of the work shown. And though the natural impulse is towards praise, and not a few of the examples can command it, one cannot conceal from oneself that the life has passed out of the movement, and that the Society is unable to attract to itself the more powerful influences in craftsmanship which are shaping its future.

It is not that the exhibition lacks some good examples, but that there are not enough to displace the sense of stagnation.

Coming to the exhibits themselves, the fine designs for stained glass by Mr. Kruger Gray are among the best shown, and we are glad to notice in the few examples of actual leaded glass, some freshness in the point of view; so marked an improvement on the glass exhibited at the Society's previous exhibition. Nos. 514, 524 and 513, "The Duke of York and his men," by Evelyn M. Woodcock, have special attractiveness. Cartoons for stained glass, a number of which are shown, should be accepted with caution, as they are a most unsure method of judging glass; and how far they sustain in colour and treatment the promise of the working drawing (cartoon) can only be decided by reference to the glass itself. Case 170 in Room X. contains bound and tooled books of varying merit, the binding by Frank G. Garrett being a delightful piece of work. Examples, such as 170, in the same case, while showing much technical proficiency, seem to overlay the human side, and the perfection is rather faulty and conventional. In Room IX., where textiles and embroideries are chiefly displayed, Nos. 302, 305, 325, and 368, the "Little Girl's Dress," are all attractive, especially the last.

No. 205, "Processional Cross for King's College, Cambridge," by Mr. Bainbridge Reynolds, has the distinction we associate with this fine craftsman's work, and the same may be said of 417, a design for mace and chain, by Mr. C. F. A. Voysey.

While in the pottery shown there is nothing to compare with the mastery of the best examples of "Martin" ware, there is plenty of average merit, but seldom passing beyond a skilful craftsmanship, and the distinction which reaches beyond this, where imagination comes to the aid of craftsmanship, is singularly lacking. Among the principal exhibitors in this class are: A. H. Powell, Bernard Leach, Stella R. Crofts, to mention but one or two of a large number. Furniture by the late Ernest Barnsley is an attractive feature of the exhibition, which also includes photos of houses built by him. Furniture by living craftsmen has the characteristics we have come rather to expect, well executed, but of prosaic design.

A review such as this is better concerned with tendencies and an endeavour to interpret them than to enumerate examples in such an exhibition, many of which might be simpler and easier, while yet holding more human appeal. It is all a little self-conscious and away from reality, and this is reflected in the "Foreword," which tells us that the personal craftsman exists "to promote standards, incentives to artistic invention, and new ideas to the mass production manufacturer." But is this really the purpose for which he exists, and one to be accepted by craftsmen? It appears to us there is unreality in thus hooking the craftsman to the "mass production manufacturer," instead of to his own star!

GARDEN DESIGN CONFERENCE

We published in our last issue reports of a number of lectures given in connection with the Royal Horticultural Society's International Exhibition of Garden Design and Conference, held recently at Westminster. We now conclude our report with the two following papers.

MODERN PARK DESIGN.

On October 23, Mr. E. P. Mawson, F.R.I.B.A., read a paper entitled "Some Modern Tendencies in Park Design," illustrated by lantern slides showing the lay-out of some of the most recent town-planning schemes and development schemes at seaside resorts.

One had, he said, only to cast one's memory back a very few years to realise that a radical change had come over the theory and practice of park design. This change had been the product, in the main, of two outstanding factors, to which other causes had been more or less subsidiary. The first of these was the breaking down of the spirit of insularity which up to and throughout the mid-Victorian period placed English park design in a class by itself, and tacitly assumed that needs, aims, and practical requirements in this country were so entirely different from those obtaining elsewhere as to make it quite impossible that we should learn anything by comparison of our own methods and results with those to be seen in Continental or other examples.

That this attitude of mind was not quite so foolish as might at first glance appear would be evident when they considered the enormous influence which climate and national habits had on park design. In this "green and pleasant land" it was more often a case of preserving and enhancing the beauty which nature had provided with lavish hand than causing the wilderness to blossom. In many cases the addition of a little rockwork and the working of the stream into limpid pools and falls was all that was necessary to produce a better effect than could have been obtained by any other means. Unfortunately such instances blinded the eyes of many people to the fact that landscape architecture was more than this would imply, and so began the absurd and pedantic application of such rules as that "Nature abhors a straight line," which, coupled with a state of mind which confused ingenuity and art, and so produced bizarre and crude effects in carpet bedding, led to many extravagances.

That the absurdity of the attempt to imitate nature and call it art was not at once apparent was doubtless due to the feeling that, while we might not have been as successful as we should be in the design of the general run of public parks and gardens, we were nevertheless engaged upon the great task of building up a national style and a school of park and garden design which would be particularly suited to the genius of our race and to our climate and ideals, and thus would form a very precious national possession. Doubtless sufficient work of a creditable nature emerged to give colour to this idea, but when we view the results as a whole and realise what were the effects of the wholesale application of the rules which resulted more or less logically from the attempt to imitate nature, it became abundantly clear that park design had got into a *cul de sac* from which it would be impossible to rescue it without a clean break with tradition and the introduction of new ideas and ideals.

Another result of this false reasoning was the entire degradation of the profession of landscape architecture. If the highest art existed merely in the imitation of nature, surely what was needed in the designer was not a highly trained and specialised artistic sense but merely a higher development of the imitative faculty of the average monkey! The result had been that in this country for far too long a period public park design had been in the hands of those whose only claim to recognition as exponents of the art was their accessibility at the moment or familiarity with arboriculture or engineering work. Too often the parks had been the prey of the first man on the job.

He did not mean to say that in the design of English parks they should ignore natural beauty. That would be to go to the opposite extreme. Often the landscape architect's happiest effects were gained by some slight modification of that which was already on the site, and which his trained eye showed at once to be a very precious possession in the rough, only needing a little manipulation to reveal its beauties.

A second great and fundamental factor had operated to bring about the change in our attitude to park design which had so markedly taken place in recent years. It arose from the manner in which our methods of life and social habits had changed during that period, and with this change had come a corresponding change in our ideals of park design. Fifty years ago almost the only function of such games as tennis and bowls, particularly the former, was to provide the setting of a social occasion for a very limited middle-class of society; to-day they were played by all classes for their own sake. The result was that whereas until recently "tennis" meant a desultory game on the vicarage lawn, it now meant a particularly strenuous one in every public park. The game, in common with every other form of outdoor sport, had completely revolutionised all our ideas of park design.

Fifty years ago the function of the public park was to provide, or attempt to provide, a substitute for that contact with nature of which the urban dweller was necessarily robbed, and the results at their best were undoubtedly successful up to a point. To-day, on the other hand, with the extended means of transport available, bringing almost everyone rapidly and easily into direct contact with nature at its best, the imitation palled and was seen for what it was.

To-day our task was not to provide a substitute for nature, but to clothe what was at bottom a utilitarian project with the essentials of beauty without sacrifice of usefulness.

Thus two great influences had been at work through recent years, shaping the modern tendencies of park design in England: first, the breaking down of an insular idea which prevented our adopting the best to be found in the landscape architecture of other countries; and second, change in our method of living which gave us correspondingly changed needs which could only be met by a radical change in the methods employed and aims to be sought in the laying out of parks. There had, however, been another influence at work which had changed not so much methods of design in the individual park as the whole professional practice, enlarging our outlook and rendering our sphere of influence many times greater than in the past: dignifying and raising the profession to an elevation previously unrealised. This is the coming of systematic and purposeful town planning, an art as old as the building of cities, but, in its application to English towns, entirely new and revolutionary, and arising out of those Acts of Parliament which had received consolidation in the Town Planning Act, 1925.

Wherever this Act was put into operation under properly qualified control the first step to be taken was the making of a survey of existing conditions and facilities; in short, to diagnose the disease before attempting the cure. This survey resulted in what was known as a "User Map," a plan of the area under treatment which showed the use to which every portion was at present put. The user map illustrated in a most graphic and compelling manner how badly the old haphazard way of planning towns had worked in relation to the provision of open spaces. Their distribution in almost every case was found to be as chaotic and uneconomic as was possible.

Briefly stated, the construction of a comprehensive park system along modern lines had two parts. First, they had to see that every part of the area under review was provided with its proper quota of parkland and open space, or, if that were not possible either for financial or other reasons, or because the area was as yet too undeveloped to allow of the creation of the whole series, they must still allocate the sites and provide for their retention, free from obstructive developments, until such time as they were wanted under the powers of the Town Planning Acts. Having provided each part of the area under consideration with its proper quota of parklands of various sorts, a further task awaited them in the linking together of these various units into one comprehensive scheme.

The first result of the great change in our attitude towards park design which had resulted from the broadened outlook which town planning has given was the introduction of a feature which had been so far almost unknown in English practice, that of the connecting parkway or boulevard. It was not so much that people would pass from one park to another along these ways, though this undoubtedly happened. Their real usefulness resulted from the way in which the park was brought right to the doorsteps of the populace. Just consider what a difference it must make to the inducement to visit a public park if, instead of traversing ordinary traffic streets all the way to it, one could, in a very short distance, strike across to a parkway which would bring him there along a route which was itself attractive. The connecting parkway had two other advantages. Property surrounding a successful public park had usually a very much heightened rateable value. The making of the narrow strips of parkway naturally extended very considerably the area over which this added rateable value operated, and, for a given area, at a very much lessened expenditure, both in capital charges and upkeep, as compared with the park itself.

In conclusion, the lecturer said the most prominent of the modern tendencies in English park design were: first, a greater cosmopolitanism, a greater readiness to study and adopt all in the work of other nations which was translatable into terms of the British psychology and English climate, coupled with a widened outlook which rendered that process infinitely easier than it would have been twenty years ago. Second, we had more epoch-making social changes than have ever occurred in so short a time in the history of the nation, and these again had brought new needs and requirements. In particular, organised games and outdoor sports of the more active kind, in which everybody participated, as opposed to those in which the bulk of those concerned were mere spectators, had increased out of all proportion.

Third, the science of town planning had enormously widened the scope of the landscape architect in two ways. It had encouraged him to visualise the whole of his task in each town or city as a self-contained unit, and it had enabled him to lay his plans far into the future without creating a financial position which was impossible.

Fourth, we had the new movement out of which had arisen such bodies as the National Trust, the Playing Fields Association, and the local Footpaths Preservation Societies, all of whom must be indebted to the landscape architect to a greater or less degree if their schemes were to realise the greatest of which they were capable.

Fifth, in these more strenuous and complex days requirements at holiday resorts, whether inland or at the seaside, had been revolutionised within a period of little more than ten years, and everywhere round our coasts developments were, in consequence, taking place with unprecedented rapidity.

Sixth, he believed we were on the verge of still greater changes which would so broaden our outlook that many forms of public open-air recreational areas would emerge of which

we had in the past had little experience. Among these would be the "passing through" parks which he had mentioned.

ENGLISH GARDENS: THE REVIVAL.

Mr. Gilbert H. Jenkins, F.R.I.B.A., delivered a lecture on this subject on October 18.

The lecturer, after reviewing the lack of any coherent design in the mid-Victorian garden, except in such gardens as Trentham and Stoke Edith, where Sir Charles Barry and Eden Nesfield laid out gardens as a setting to these country houses, proceeded to describe the revival of formal gardening. He said that it was little wonder that the better architects were again attempting to revive the old-fashioned parterre to form a suitable setting for their work and an interesting foreground to the landscape seen from the garden front. Such a move alarmed the gardeners, who found in Mr. William Robinson a doughty champion. Mr. Robinson advocated a return to the true principles of landscape gardening and the use of the many new species and garden varieties of hardy flowers which various botanical explorers had introduced from the Continent, North and South America, and Japan during the previous century. He was the pioneer of the modern wild garden, and his opposition to the style of garden design reintroduced by the architects resulted in a wordy warfare with them, in which a great deal of garden literature was published on both sides. Sir Reginald Blomfield and Mr. Inigo Thomas opened the affray by publishing "The Formal Garden" in 1892, and designed gardens on the principles they advocated. In these gardens not only was the lay-out symmetrical and on strictly geometric lines, but great reliance was placed on architectural features—temples and pavilions, stone balustrades, and paved walks, carefully masoned flights of steps with moulded edges, fountains which were monuments of the sculptor's art set in pools with moulded stone rims, while the planting was deliberately designed to enhance the set formality of the lay-out. Severely regular yew hedges, in which the lines were only broken by arches, balls, or pyramids, were used as the background to beds in which the planting was chiefly of the bedding-out variety, the plants being carefully selected dwarf varieties which would not interfere with the full display of the formal patterns of the beds. That formality was further emphasised by grass borders of even width, and all centres and many angles punctuated by vases, statues, or cut specimen shrubs.

That formalism, though in no wise carried to the absurd lengths it went in the beginning of the eighteenth century, was a natural reaction from the fake naturalism of the landscape gardening in the middle of the last century. It was the type of formalism which Mr. Robinson so vigorously attacked. It was left to another architect—the late John D. Sedding—to point out that possibly both sides in the heated discussion were wrong, or, at least, only partially correct in their views. He was an original thinker who refused to make his Gothic churches of any particular type or period, and thus converted a revival into a living style. He suggested in the book he published that while it was proper to give a formal treatment to the part of the garden immediately surrounding the house, such formality should gradually relax as the garden neared its boundaries, so that the garden merged into the landscape with no hard-and-fast division between it and its surroundings. That suggestion, said the lecturer, was the foundation of all recent garden design leading to the combination of the clashing styles and resulting in the garden of the immediate pre-War period. Compromise in the general lay-out gradually extended to the more formal portions of the garden: while the planning was kept on strictly geometrical lines, the planting became much more varied in height and colour, resulting in the disappearance of the hard, smug appearance of the formal garden of the previous decades, and gave opportunities for greater variety in floral display. Sedding also pointed out that the use of the yew hedge enabled the garden to be easily cut up into several smaller gardens of differing shape and treatment, thus greatly increasing the interest and making the whole seem larger, while an added charm was given by the element of surprise. The visitor saw a vista extending into the distance with delightful suggestions of beauties still unfolded, tempting him to investigation and joyful discoveries.

Mr. Robinson opened the eyes of people to the wealth of flowering plants at their disposal. The herbaceous border was invented, and the complicated knots of box gave place to formally disposed beds. It was discovered that in the English cottage garden there were growing many charming old-fashioned English garden flowers. As formality in the outer garden was to give place to an effect of natural beauty, it was necessary gradually to supplant the more sophisticated types of flowers for the inner garden by those of the meadow, woodland, heath or marsh, many of which were found for the first time to be worthy of cultivation in the garden. This idea greatly increased the opportunities of the nurseries, and great developments took place in the range of flowering plants and shrubs to meet the new demand.

For the first time in English gardening, floral display took the pre-eminent place, and many new kinds of gardens were added, each devoted to some branch of floriculture. Commencing from the house, we found the terrace walls were covered with many new varieties of climbing plants, in addition to the Georgian roses, jessamine, wistaria and magnolia, and the older ivy. We had always had rose-gardens, but the pergola—introduced from Italy—gave an impetus to the growth of climbing roses. Many new varieties of clematis were produced, and the beauty of clematis montana and of polygonum was discovered The cutting up of the garden into smaller sections, at first formally divided by yew hedges and afterwards by belts of flowering shrubs, led to gardens for special varieties of flowers being formed—iris, primula, Michaelmas daisies and azaleas, to name only a few. In the outer gardens, the increased appreciation of all species of flowers and the consequent study of their cultural needs led to a close attention being paid to their natural habitations. As a result, wood, water, marsh, rock and heath gardens were added to the list. To Miss Jekyll we owed much of the beauty of modern gardening. In her articles and books she had never tired of pointing out that no matter how beautiful were the flowers, careful selection was essential to combine them into pictures which would satisfy the eye of the artist, and that no garden could be a success where this had been neglected. At Munstead Wood she lived up to her writings and gave an example of how a woodland garden could be made. While one felt that she believed in formal gardening for the immediate surroundings of the house, it was evident that she also believed in the best kind of landscape gardening for the outer regions. In her book on rock gardens she had shown how nature should be studied in the placing of the stones. The dreadful piles of rubble or spar, stood on end, which the Victorians called a rockery, had given place to gardens which seemed to have been lifted bodily from some Devonshire moor or Yorkshire fell. It was doubtful if in some of the rock gardens which had recently been seen at the R.H.S. show at Chelsea the real reason for a rock garden, viz., the provision of a suitable home for the many lovely Alpine plants, was not being overlooked.

The landscape gardener—beaten away from the immediate vicinity of the house—had found that there were still many opportunities for the legitimate display of his art. Hundreds of new species or varieties of shrubs and plants had been sent home by the recent expeditions made by Farrer, Forest, Wilson and others—who, besides specialising in rhododendrons, primulas and poppies, had introduced many other fine species. This had spurred on the development of the woodland, marsh and water garden, and there was a danger that our gardens would suffer from an *embarras de richesse*. The formal garden itself had become much more flexible in treatment. Not only was the formality in planning less obvious, but the value of texture in materials had been more widely appreciated. That characteristic alone would distinguish it from the formal gardens of Victorian days, while the rill or narrow canal had been designed for the display of aquatic plants.

Tennis had greatly increased, and it had been realised that it could only be played during nearly all seasons in England on hard courts. As hard courts detracted from the beauty of the garden—not only on account of their colour, but because of the difficulty of making presentable enclosing nets—they were buried in the shrubberies or placed in yew enclosures, which formed an excellent background against which to sight the balls.

The conservatory, as an adjunct to the house, had been abolished, and the glasshouses had been banished to the kitchen garden. Here and there one saw attempts to make even that utilitarian part of the garden beautiful to look at. Flower borders for cutting, backed by espalier fruit trees, arched fruit alleys, brick walls and buildings with stone, thatched or tiled roofs of good texture had been used for the purpose, but further efforts—possibly on the lines of the old brick-wall garden with its few clipped yews and sundial—might be attempted with no detriment to the fruit trees or vegetables. The presentable-looking greenhouse seemed an insoluble problem, owing to the fact that the point of view of the gardener and architect differed so widely. To the latter, the Georgian orangery with a glass roof was a desirable model, but the gardener demands a maximum amount of sunlight, so the glasshouses were now buried in some unnoticeable corner or in a walled garden where their ugliness would not be seen.

He had only touched the fringe of some of the recent deevlopments, said the lecturer. The elaborately-constructed naturalistic waterfalls and cascades were, however, only a revival of eighteenth-century landscape work, as were the lakes and river effects, but it was probable that the gardeners of those days did not take so much pains with their waterside planting, and they had not the wealth of material for their use. The ponds themselves had the advantage of the many varieties of fine water-lilies. In conclusion, he should mention the post-War developments. On account of the luxury taxation and the greatly increased cost of everything in the garden, and particularly in garden labour, it had been necessary to cut down the amount of labour required. That had tended to increase the use of flowering shrubs and to simplify the lay-out so as to reduce the cost of upkeep; but it was to be hoped that the peak of achievement had not been passed, and that our gardens would be models, which other nations would seek to study and emulate, for many years to come.

He hoped, said the lecturer, that he was not biased in suggesting that the great revival in gardening which had taken place in the last half-century was due to the revival of garden design by the architect, and the stimulating effect he had had on the gardener. No doubt the best results had been obtained when he was both architect and gardener, or where he knew sufficient of gardening to collaborate with the gardener in perfect accord.

New Housing Scheme, Nottingham.

Nottingham City Council has adopted a £450,549 scheme for building 1,200 houses on the Aspley-lane site. A contract for £378,729 has been let for the houses, which have been planned by the city architect.

EXHIBITION NOTES

"SAVE THE COUNTRYSIDE."

THE exhibition of photographs and other illustrations shown at the recent Conference at Leicester on the Preservation of Rural England is now on view for some weeks at the Architectural Association's Rooms, Bedford-square, before it journeys to other parts of the country. Those interested in the vital question of England's beauty should make a point of visiting the exhibition. Those who are not, as yet, alive to the disease with which the countryside is already so sadly infected should go in order to learn that enthusiasts are not always given to exaggeration. Those who feel impotent or despairing on the subject, or disposed towards a *laissez-faire* attitude, should visit the show in order to see that all is not yet lost if public opinion can be roused to action. It is "not merely a chamber of horrors," as the originator, Mr. H. H. Peach, of Leicester, assures readers of his notes upon it, although "horrors" in the way of examples of disfigurement there are in plenty. The aim of the exhibition is constructive. While the tragic truth is told, for instance, about "Leafy Warwickshire" in the photograph of a tree-y roadside desecrated by enamel signs and a terrible roadside filling station, it is evident that such ghastliness is not a necessary association of petrol. A glance at the carefully designed and discerningly placed petrol-station in another illustration is sufficient to show what can be done—indeed, what is already being done where the sense of fitness is not entirely atrophied—to establish some kind of suitable working compromise which may eventually lead to a satisfactory solution of the "roadside problem."

A few further examples of disfiguring advertisement may be given. A cottage of 1738 does not at once suggest to the normal mind a suitable bill-posting station, but shutters and walls offer too good a background, it seems, to be missed by the myopic vision of the purveyor of roadside necessaries, and so this quiet little building is plastered with signs. It is evident, however, that if the beauty of England is to be preserved and promoted it is not alone in rural places that the nation must set its house in order. A Leicester man has been bold enough to show up some of the æsthetic crimes of his own town, but the examples shown call to mind many a town, large and small, whose approaches are reproaches to the taste of its citizens. If the country is to have happier examples of the building craft and more suitable and thoughtful placing of necessary announcements, then the townsman must fall into line, if not indeed give the lead, in the march towards that orderly harmony which is one of the ways to beauty.

Under the title "The Small House Problem" there are interesting examples of good and bad design in relation to landscape and to neighbouring buildings, and the matter is very adequately and constructively treated. Besides the sections mentioned, there are exhibits concerned with footpaths, trees, flora, bridges, litter, National Trust properties, the repair of old cottages, and the use of local stone in rural cemeteries. The tone of the captions on the mounting cards is often subtly humorous, and some of the drawings add a witty flavour as well as driving home the points desired.

The Architectural Association is to be congratulated on the public-spirited enterprise it has shown in being responsible for this first appearance of the exhibition in London, and it is to be hoped that many towns and counties will follow suit at the earliest opportunity.

A Roadside in Warwickshire.

PAINTERS' CRAFTSMANSHIP.

An interesting collection of students' work has been on view at the Northern Polytechnic building in Holloway-road. The exhibition is representative of the work which is being done in training classes throughout the country. It is part of the education scheme inaugurated by the National Federation of Master Painters to improve the standard of craftsmanship and give better service to the public.

Some of the colour schemes show a good sense of colour values, and there is some very good lettering in the exhibition. The architectural designs for internal decoration include some delicate and refined drawings of quite good design by J. A. Evans, and A. Miles from the Northern Polytechnic. It is a pity that the interior with fantastic figures was admitted for competition, as this sort of thing should meet with no encouragement. Fantasy may have a place in design, but it must be controlled by a proper sense of decorative value. A promising design is the silhouette of trees and water in a decorative panel by Mr. Slack (Sheffield). Many of the freehand drawings show a good feeling for line and form. The exhibition is of much interest, but is rather lacking in evidence of an appreciation of the possibilities of decorative design as apart from mere technique.

THE OLD WATER COLOUR SOCIETY.

There is plenty of interest to be found in the 191st exhibition of the Old Water Colour Society in Pall Mall. Not only do we find capable technique, but much good choice of subjects. Landscape is the strong point, and the marked individuality of several artists is seen to great advantage. Oliver Hall, for instance, shows examples which illustrate both the attractions and defects of his qualities. His "Top of the Moors" is a charming drawing, but in some of the other contributions the treatment leaves a sense of dullness. Lamorna Birch has an enterprising brush and does not always change his methods to advantage perhaps, but his contributions are well worthy of note. Nelson Dawson has two delightful little pictures of cloudland and sea. Amongst the works by the late Charles Sims we have a most pleasing drawing of "Mother and Child," which has a serenity and grace far removed from his pictures at the Academy this year.

Sir Hughes Stanton, Cecil A. Hunt, A. Reginald Smith, W. Lee Hankey, D. Murray Smith and E. T. Holding are valued contributors to the art of landscape in their drawings. The striking value of the graceful towers and spires of Quimper is shown with great force of effect by Robert W. Allan. J. Walter West, in a solidly painted idyll of former times, and W. Russell Flint's "Judith before Holofernes," are executed with admirable technique and are amongst the best things to be seen. Russell Flint's work is a model of refined drawing.

Near Dunchurch.

An orderly Garage at Dudley.

EVIDENCE, PROCEDURE AND PRACTICE IN ARBITRATIONS

THE second of a course of six lectures on the subject "Evidence, Procedure, and Practice in Arbitrations," was delivered on Thursday, October 25, at the Institute of Arbitrators, by Capt. W. T. Creswell, Barrister-at-Law, the subject of the lecture being :—

"Procedure Prior to the Hearing."

Among other things the lecturer said :—When a dispute arises under a reference to arbitration, the arbitrator nominated therein should first be requested by the parties to act. On his acceptance of the office he is "appointed."

The submission is then deposited with him; if the reference is by order of the Court it will be "served" on him.

When the submission is in his hands he should carefully examine it, and make sure that the intention of the disputants is clearly expressed and that he understands it in such matters as the extension or limitation of the usual powers of an arbitrator, and whether he is appointed to deal with all future disputes to a certain limit (usually that of the contract where the submission is the outcome of an "arbitration" or "agreement to refer" clause in a contract); and whether the Act of 1889 is adopted or wholly or in part excluded.

Viewing.

Again, the submission may require that he shall view the thing or things, in connection with which the dispute has arisen, before the hearing, and he is then bound to do so. If, on the other hand, the request to view is made only *after* he has received the submission, then he can use his discretion as to whether he shall view before, during, after the hearing, or not at all, prior to making his award. It must be remembered that the arbitration has commenced immediately the arbitrator is "appointed."

Preliminary Meeting.

The submission may fix a time and place for the hearing, or it may leave that for the arbitrator. If he deems the case to be of sufficient importance, the arbitrator should hold a preliminary meeting to arrange a time for the discovery and production of documents, and the pleadings (*i.e.*, the "points of claim," "defence," etc.) to be delivered.

Powers of an Arbitrator.

An arbitrator or umpire derives his powers (unless otherwise defined) from Schedule I. (f) of the Arbitration Act, 1889, which is very important. It states that the parties to the reference and all persons claiming through them must (subject to any legal objection) produce to him all books, deeds, papers, accounts, writings and drawings in their possession or within their power respectively, and which may be required or called for by him. Further, they must do all other things which during the proceedings the arbitrator or umpire may reasonably require to assist him in making his award.

Unless this clause is expressly excluded in the submission the arbitrator would appear to have the power to make an order for an affidavit of discovery of documents; and, if a party refuses to "discover" any document, the arbitrator may refuse to admit at the hearing his evidence (as far as it may relate to the matters in that document). This power rests absolutely with the arbitrator, and the Court will not interfere with him in the exercise of it; the party disclosing the documents need not disclose anything that would incriminate himself, nor need he give away the evidence he wishes to produce at the hearing or anything that has been prepared by his legal adviser as evidence or matters not necessary to settle the dispute or which are irrelevant thereto.

"Legal objections" referred to in the claim would appear to include those relating to legal professional privilege. those which refer to disclosures which would be injurious to the interests of the public or the Crown.

Amendments

There should be some limit to the time during which the arbitrator can admit amendments to the claim. It is customary to accept them any time up to seven days before the hearing. The arbitrator is wise to allow amendments at any time, but it is at his discretion to make terms as to costs with the parties making the application, and also to require the latter to satisfy him that it was impossible that the amendment should have been put earlier; and that it is necessary to consider it in order that justice be done in making the award.

Time and Place of Hearing.

When the arbitrator has a discretion to fix the time and place for the hearing, he should do so by sending a notice thereof to each party to the dispute, and he should as far as possible make both time and place convenient and reasonable to all the parties. When the reference is to two or more arbitrators, all should concur in these arrangements before sending out the notices.

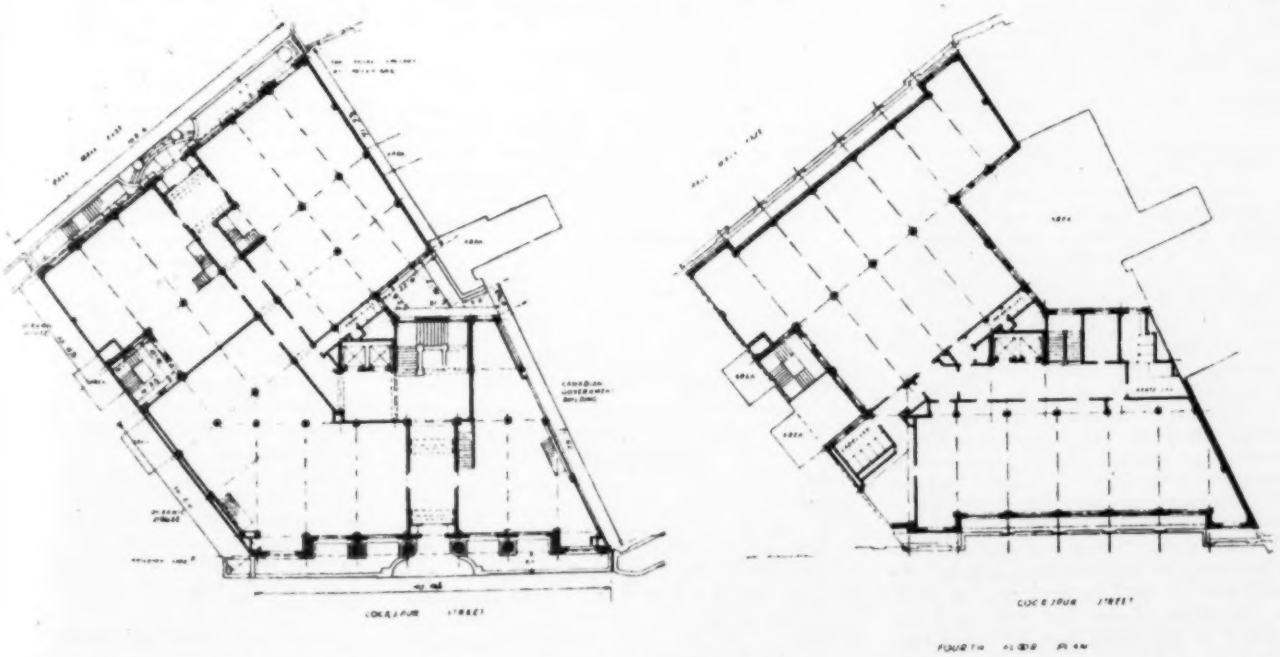
If any one of the parties wilfully obstructs the preliminary proceedings, an arbitrator can act arbitrarily; but he is not justified in proceeding *ex parte* without giving due notice of his intention to do so, or his award may be set aside. Furthermore, although an arbitrator is entitled to use his discretion when he receives an application from either of the parties for a postponement or adjournment of the proceedings, he should consult all the parties before making any order to postpone or adjourn. The arbitrator should proceed with the reference unless satisfied that there is a satisfactory reason for delay; and he should be proof against any attempt on the part of any of the parties to defeat the object of the reference by such an application.

Security of Costs.

Throughout the proceedings it must be remembered in respect to any applications made by any of the parties to the reference that the arbitrator has no power (except by an express agreement between the parties) to order security for costs. It may further be said that the power that the Court has in any "cause or matter" in this respect is not shared by an arbitrator, although when a foreigner residing out of the jurisdiction of the Court applies for the appointment by the Court of an arbitrator, then under section 5 of the Act the Court can make his giving of security for costs a condition of assisting him.

Whitelands Training College : Contract Placed.

The contract for the erection of the Whitelands Church Training College in Melrose-gardens, Putney, S.W., at a cost of £128,000, has been placed with Messrs. John Garlick (1920), Ltd., 43, Sloane-street, S.W.1. The plans have been prepared by Sir Giles Gilbert Scott, R.A., 7, Gray's Inn-square, W.C.1.



New Offices for the Sun Life Assurance Company of Canada, Cockspur Street, S.W.

MR. SEPTIMUS WARWICK, F.R.I.B.A., Architect.

SWEDISH PUBLIC HEALTH BUILDINGS

CHADWICK PUBLIC LECTURE.

In the gallery of the R.I.B.A., on Thursday, October 25, Mr. Torben Grut, Architect to the Swedish Royal Family and of the Royal Swedish Office of Public Buildings, delivered a lecture on "Public Health Buildings and Recent Improvements in Town Development in Sweden." The lecture, illustrated by 150 lantern slides, was delivered under the auspices of the Chadwick Trust, and Sir William J. Collins, chairman of the Chadwick Trustees, presided the Swedish Minister being present.

In the course of his lecture Mr. Torben Grut said the Swedish Board of Public Buildings, officially called upon by the Swedish Foreign Office to elect an architect for giving a Chadwick Lecture in London, bestowed that task upon him, at the same time asking him to mention the Board's recent achievements in improving town development for suburbs in Sweden, and to show some lantern slides of his constructions for different types of public health buildings. The Swedish law on town development was reformed in 1907. Conditions changed swiftly in Sweden, as everywhere else. New suburbs grew like mushrooms, and often without forethought or proper planning, because of the greed of owners of unsuitable and undrainable land. A Commission was set to study the question, and under the auspices of the Board of Public Buildings a new law was passed in 1926. The main features of this law were the following :—

Partition of landed property and allocation of ground for building purposes might take place only after the production, and sanctioning by provincial government, of a professionally well-considered town plan. Proper arrangements should be made for roads, approaches, public places, conduits, wires, pipes and drainage. The district government had the right to refuse sanction for unsuitable sites. Special official directions should be given, when official experts so advised, by the local authority. The Board of Public Buildings had drawn up sets of formulas for such special instructions, according to local conditions. Control was established by means of local boards, assisted by professional experts. Stipulations had been made regarding size of lots, relations between lots and buildings in placing, space and height and regarding drainage, fireproof construction, sanitation and modern hygiene. By so doing, the Board had effected great improvements.

The housing question was important, but equally important were grounds and buildings for baths, gymnastics, athletics, games and sports. One of the great problems in Sweden was the reform of physical education. The Swedish summer was light but short, and the winter days were shorter. Long summer vacations, very often spent in professional work and study, necessitated concentrated indoor work for the schools. The children were closed up from 8 in the morning till 3 in the afternoon in classes of 30, each child listening to the other 29 being rehearsed, and then went home to learn their lessons and write their exercises till 10 in the evening. Reform was being considered, and also the appointment of high-class school-games-masters. The old "Gymnastic Central Institute," founded by the great P. H. Ling, was to be transformed into a University for Physical Education. Three consecutive committees had been sitting for this purpose, one in 1911-12, one in 1917-18, and one in 1928. He was a member of the first two, and was the architect of the third and definitive one.

This new Central Institute was to be built on a hill in the northern part of Stockholm, overlooking the stadium that was built after the lecturer's design in 1912 for the Olympic Games. This stadium was comparatively small but concentrated, and the lecturer explained its main lines by lantern slides. He then proceeded to show the new Central Institute in its three subsequent evolutions of 1911, 1917 and 1928, and then two designs for new practising stadiums in Stockholm, the *Stadio Nozionale* in Bucharest, which he was summoned there to design in 1922, and a gymnasium with swimming-pool, running-track and fencing-schools for the Roumanian army, new types of gymnasia for Sweden, the gymnasium at Norrkoping, the lawn-tennis covered courts built in Stockholm in 1923 after his design, and the new ones of 1828, as well as his new normal type for cheap covered lawn-tennis courts and its main features. The lecturer also showed the open-air sea-baths at Saitsjöbaden and Djursholm, near Stockholm, which he built in 1925 and 1928, and his design for people's public baths for Stockholm of 1928, with two swimming-pools, one on the top of the other, and for a covered football ground and singers' hall in Stockholm.

Mr. W. E. Riley, F.R.I.B.A., proposed a vote of thanks to the lecturer and said that Mr. Grut's clear, detailed and appropriate plans showed what he (the speaker) had always maintained, i.e., that when a design fitted the purpose of a building it was always possible to obtain a good elevation.

ARCHITECTS' & BUILDERS' INQUIRY BUREAU

We are glad to give questions and answers, but cannot accept responsibility for contributed replies, especially on legal matters.

May we appeal to our correspondents to submit their queries on paper of a size easily filed, and written as legibly as possible, or, better still, in typewriting!—ED.

Plastering on Metal Lathing.

[REPLY TO "B. G.," OCTOBER 19.]

SIR,—The life of metal lathing has not yet been adequately tested by time, and personally I always specify Keene's cement on a Portland backing for all such work, in the belief that the metal is thus better protected than with a lime plaster. This may, however, be excessive caution. CONSERVATIVE.

Square Mile and Mile Square.

SIR,—In superficial area there is no difference between "a square mile" and "mile square." The former, however, may have a boundary of any regular or irregular geometrical figure, whereas the latter is what it says it is. TAPE-LINE.

Damp Wall.

[REPLY TO "PETROCK," OCTOBER 19.]

SIR,—I should strongly advise your correspondent to have the wall battened and tile-hung. I have in mind an old converted kiln building in which we resorted to this after many fruitless experiments, and we have had no trouble at all since this was done, although the situation is very exposed. BATTEN.

Reinforced Concrete Text-book.

[REPLY TO "ARCHITECT," OCTOBER 19.]

SIR,—I strongly recommend the two small books written by Dr. Oscar Faber, entitled "Reinforced Concrete Simply Explained," and "Simple Examples of Reinforced Concrete Design," originally published in *The Builder*. L. E. WALKER.

Question of Nuisance.

[REPLY TO "TENANT," OCTOBER 19.]

SIR,—Your correspondent should consult a solicitor with a view to obtaining an order restraining his neighbours from what is clearly a nuisance. But can he not do something by approaching them in a neighbourly manner? QUIET.

Hedges.

[REPLY TO "HOUSEHOLDER," OCTOBER 19.]

SIR,—Probably nothing can beat the privet for cheapness and ultimate service. A quick-growing hedge may be formed with cypress trees planted fairly close together and transferred when fairly well grown. PRIVACY.

[An answer to this question has been forwarded to our correspondent by post.]

Sound-proofing.

SIR,—A layer of a proprietary material composed mainly of dried seaweed, nailed over the floor joists and under the floor boards, should effect a reasonable cure. If it is possible to interpose battens between this and the boards it would be so much the better, but this is not always possible in existing houses. PROOF IT.

Damp Ceiling and Chimney.

SIR,—In connection with a chimney, damp shows on the ceiling and on the chimney-breast. A new lead chimney gutter and soakers have been put in and the slates put in order, but the damp still comes in. I thought it came in down the chimney, and a top was put on the pot. The chimney has been cemented and a waterproofer used in the cement and the whole coated with waterproof material, but wet still comes in. Only a gas-stove is used—there is no fire. Can you give me some advice as to the best means of effecting a cure? A.1

[You did right in closing the top of the chimney-pot and coating the exposed surfaces of the stack with waterproofed cement, because the dampness is usually caused either by rain dropping down the flue, or penetrating through the brickwork and then soaking down until it shows in the room. You must realise that when you plastered the outside of the chimney-stack with waterproofed cement, you sealed in all the moisture that saturated it, and this moisture can only escape by travelling down to the parts left uncovered—that is, near the ceiling.

The combustion products from gas-fires contain a good deal of moisture, and it is not uncommon to have complaints of dampness when gas-fires are installed—such dampness having been absent when the flues served for coal fires. The brickwork being cold and damp would cause this moisture of combustion to condense upon the sides of the flues, and so would make matters worse.

There is a good chance of the trouble curing itself if you can wait, but immediate relief would follow if you hacked off the plaster over an area of 2 ft. beyond the limits of the present dampness and replastered with waterproofed cement mortar. This coating should be taken right past the ceiling construction, which will thus be isolated from the damp brickwork. Skim the waterproofed cement, where below the ceiling level, with gauged lime-setting stuff to prevent condensation. Give careful attention to the instructions issued by the makers of the waterproofer, and if you are in doubt upon any point connected with its use, ask for their advice.—ED.]

Cavity Walls.

[REPLY TO MR. L. E. WALKER, OCTOBER 26.]

SIR.—Is it not an unsound method of construction to weaken all the quoins right at the base of the walls by leaving them in sand courses and not pinning up until completion? ARCHITECT.

[REPLY TO MR. EVANS, OCTOBER 26.]

SIR.—I am grateful for Mr. Evans's suggestion, but fear that, like all similar gadgets, it ignores the fact that though it is thoroughly sound for long unbroken stretches of wall, most of the walls encountered in house-building are frequently interrupted with window and door frames, between which nothing but a specially made variety of apparatus will help. Hence the "gadgets" tend to disappear with the architect. ARCHITECT.

Portland Stone.

SIR,—I notice that many architects specify "brown" Portland stone. Is there any particular virtue in this specification, and what bed would this variety be? ASHLAR.

THE BUILDING TRADE

EVERYDAY SCIENCE FOR ARCHITECTS AND BUILDERS—XLI

By A. M. GILES, B.Sc., A.I.Struct.E., A.M.I.E.E.
Diagrams and Illustrations by M. R. DUMVILLE.

The Motor and the Dynamo.

These two electrical machines are the outcome of the fundamental principles of electricity and magnetism. They are of such common and everyday use that one often wonders how the industry of the country went on before they were invented and their applications made practicable. Therefore, though it does not seem necessary to go into all the theories involved, yet a working knowledge of the principles and the essential parts in their construction cannot but be helpful. Because in their make-up they have so much in common, it will abbreviate, to a very large extent, the explanations that must be given in order to make one familiar with them, if we give in broad detail the uses of the various parts and show how they are connected with one another.

There is, however, a very great difference between them, since the dynamo is a machine which converts mechanical into electrical energy, while the motor converts electrical into mechanical energy. Naturally the amount of electrical energy obtainable from a dynamo will be a factor of the amount of the mechanical energy used by a machine in driving the dynamo. also the mechanical energy obtained from a motor will depend upon the electrical energy put into it. As mentioned at the end of the preceding article, when a coil of wire is rotated in a magnetic field, electrical energy is generated, and the coil of wire combined with the magnetic field constitutes a dynamo; whereas, in the case of the motor, if an electric current be sent round the same coil of wire when in a magnetic field, the coil will rotate. Therefore, to use a motor, there must be somewhere a dynamo which is generating electrical energy.

It is occasionally stated that a dynamo creates electricity. It does nothing of the kind, since it really generates or produces an electrical pressure, or, as it is more commonly called, an electro-motive force (E.M.F.), which will cause an electric current to flow round a circuit of conductors against their resistance when the ends of the circuit are connected to the terminals of the dynamo. It resembles a "head" of

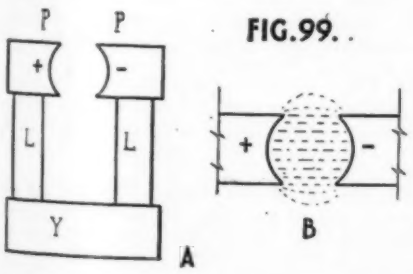


FIG. 99.

water which will cause a flow through the pipes when the tap is turned on, or it is analogous to a pump which produces a mechanical pressure and may be used to drive water into a cistern at the top of a house against the back pressure due to the weight of the water.

It may be repeated that the electrical pressure generated by a dynamo is measured in volts. It would be a 20-kilowatt machine if it generated 200 volts and the current were 100 amperes in the outside circuit when connected up. The essential parts of the dynamo and the motor are (*a*) the field-magnets, (*b*) the armature, (*c*) the commutator, and (*d*) the brushes. These parts may now be described in elementary detail.

(a) The Field-Magnets. Fig. 99.

Neither the dynamo nor the motor would function without the field-magnets. It is necessary to have a strong magnetic field—*i.e.*, one that has a very large number of lines of magnetic force per unit area of cross-section of the field. It is also necessary to have, as nearly as possible, a uniform magnetic field—*i.e.*, one in which the lines of force are parallel with and equidistant from one another.

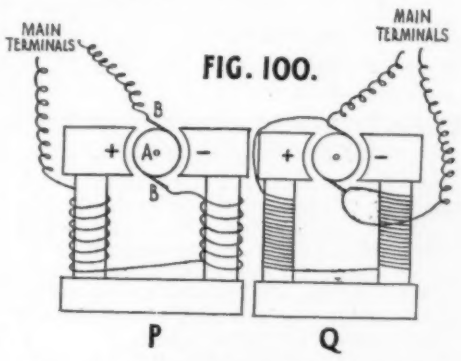


FIG. 100.

There are four parts to the field-magnets, viz., the pole-pieces, the limbs or cores, the yoke, and the coils. The first three are made of soft iron. The diagram, Fig. 99A, shows their relative positions.

P.....P are the pole-pieces.
L.....L are the limbs or cores of the coils.
Y is the yoke.

The magnetic circuit is from the pole-piece marked with a plus sign, across the air-gap to the negative pole-piece, down the limb on the right, along the yoke, and up the limb on the left to the positive pole-piece. The air-gap should be as small as possible, leaving only sufficient clearance for the rotation of the armature.

Coils are wound round the limbs L——L in such a direction as, when a current is flowing in them, to make the one pole-piece positive and the other negative. These directions can be easily determined by the application of Ampere's screw-rule. As explained previously, these soft iron limbs now become electro-magnets, and a strong magnetic field is set up between the two pole-pieces. This field is shown diagrammatically at Fig. 99B.

In order to magnetise the electro-magnets there must be a current flowing in the coils around them. The electro-magnets are then said to be excited. At one time it was considered necessary to excite them quite separately from the circuits of the machine, and this was done by connecting a battery to the ends of the coils. Later it was found that they could be excited by the machine itself. This is illustrated by Figure 100 P and Q. The circle in the centre of the magnetic field is the end view of the armature. As the armature is made to rotate, small copper gauze brushes bear upon the commutator. If the current from one brush, say the positive brush, flows around the coils of the electro-magnets before going to the outside circuit, as shown in Figure 100 P, then the machine is called a series-wound machine. In this case there are a few turns of thick wire round the magnets, since these have to carry safely the whole current being taken from the machine, which may be anything up to 200 amperes or more.

In the case of Figure 100 Q, we have a diagram of what is called a shunt-wound machine. It is called so because a small part of the current taken from the machine is shunted round the coils, while the main current flows round the outside circuit. It really means that as the current leaves the positive brush it has two paths, one round the coils of the magnets back to the negative brush, and the other round the outside circuit to light lamps or do other useful work, back to the negative brush. As the current in the shunt coil is small compared with that in the outside circuit, we use a large number of turns of thin wire for the coils in this case. This illustrates what has been previously mentioned, viz., that the strength of the electro-magnets depends upon the ampere-turns of the coils, which is the product of the current and the number of turns of the coil per inch length of the magnets.

The Armature, Commutator and Brushes.

The descriptions of the three remaining essential parts of the motor or dynamo, viz., the armature, the commutator, and the brushes, are so intimately related that it is better to take them together. A reference to the diagram, Figure 101, will materially help in making their separate functions quite clear.

In the first place, the armature has a long steel shaft, the ends of which rotate in suitable bearings. Keyed to the shaft is a large number of thin soft iron discs, having a number of slots round their circumferences. These discs are clamped tightly together so as to form the shape of a cylinder. Passing along the length of this cylinder, and fitted in the slots, are the wires forming the coil which is to rotate in the magnetic field of the magnets. The two ends of the coil are fixed to two copper rings fitted on the shaft. These two rings form the commutator. In the diagram is shown a wire starting from one ring and passing round the soft iron cylinder twice, and then back to the other ring. As the armature has to rotate there can be no fixed outside connections to the two rings. This difficulty is surmounted by having two pieces of copper gauze bearing upon the perimeters of the two rings. These pieces of copper gauze are called the brushes, and the ends of these are connected by leads to two insulated terminals upon the framework of the machine.

In the dynamo, when the armature is made to rotate by belting which passes round a pulley, fixed at the end of the shaft, an electrical pressure of so many volts is set up between the two terminals of the machine. In the motor, if the two terminals on the framework of the machine are connected to an electrical pressure, the

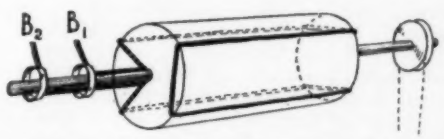


FIG. 101.

armature will rotate. There are, of course, very many refinements in the completed machines, but they do not in any way affect the fundamental principles that have been briefly described in the preceding paragraphs.

These machines should not be overloaded, since their efficiency is greatest when the working load does not exceed their rated capacity. The place chosen for their erection should be dry and free from dust, and, if possible, such that a cool current of air can be obtained. The securing of good foundations is particularly essential. These should be entirely separate from the foundations of the walls of the building in which either dynamo or motor is to be placed. Stone or concrete should be used, but if brick is employed, then cement mortar should be used and a good large thick stone well bedded at the top.

NEW BUILDINGS IN LONDON

The Editor would be glad to receive information for publication under this heading from architects, builders, or other persons concerned.

Becontree.—HOSPITAL.—The Housing Committee of the London County Council has recommended that the Council contribute £10,000 towards the capital cost of a new general hospital of 300 or 400 beds, which shall serve the London County Council estate at Becontree.

Becontree.—SHOP.—A plot of land, having an area of about 12,870 square feet, with frontages to Valence-avenue and Burnside-road, is to be let by the London County Council to Mr. L. Marcus for the erection of shop premises with living accommodation over them.

Bermondsey. — CLUB. — The Time and Talents Girls' Club, 187, Bermondsey-road, S.E.1, have purchased a site about 3,840 square feet in extent, at the corner of George-row and Abbey-street, in the Hickman's-folly area, Bermondsey, from the London County Council, for the erection of new club premises.

Camberwell. — TENEMENT. — The London County Council has accepted the tender of Messrs. R. J. Rowley, Ltd., of Tottenham, at £36,308, for the erection of 73 tenements, together with other buildings, on the Comber Estate, Camberwell. The plans for the tenements have been prepared by Mr. G. Topham Forrest, F.R.I.B.A.

Greek-street. — CONVERSION. — Messrs. J. Simpson & Son, Paddington-street, W., have secured the contract for the conversion of No. 18 into a large restaurant for the Restaurant d'Italie. The architects are Messrs. Forsyth & Maule, FF.R.I.B.A., 12, Stratford-place, W.1.

Hendon.—SCHOOL.—The London County Council recommend that, subject to the consent of the Minister of Health, the site at the north-eastern corner of Watling estate, Hendon, having an area of about seven acres with a frontage of 150 ft. to Deansbrook-road, be sold for £5,000 to the Middlesex County Council for the erection of a secondary school.

Oxford-street.—STORES.—Work on the site, in Hereford-gardens, Oxford-street, and Park-lane, of the new "Gamage's" store has been commenced. The clearing of the building area is being carried out by Messrs. Willment Bros., Baltic Wharf, Waterloo, S.E.1, and the building contract has been let to Messrs. Higgs & Hill, Ltd., of Crown Works, South Lambeth-road, S.W.8. The architects are Messrs. Joseph, 2, Paul's Bakehouse-court, Godliman-street, E.C.4.

Queen's-road.—CINEMA.—Application has been made to the London County Council by Mr. W. J. King, architect, 5, Great James-street, Bedford-row, W.C.1, for consent to the erection of a cinema and shops upon a site at the corner of Porchester-road and Queen's-road. No building contracts have yet been let.

Richmond.—CINEMA.—Messrs. Granger & Leathart, architects, 7, John-street, Adelphi, W.C.2, have prepared plans for the new Richmond Super Cinema, which they will build for Messrs. Joseph Mears on the site facing Richmond Bridge, at present occupied by Talbot House. The cinema will provide accommodation for 2,000 people.

Southwark.—HALL.—Practically one side of a street adjoining St. George's Cathedral, Southwark, has been acquired for the purpose of erecting a Cathedral hall.

Spitalfields. — BRANCH. — Messrs. Lloyds Bank, Ltd., have accepted the tender, at £10,747, of Messrs. Bovis (1928), Ltd., 43, Upper Berkeley-street, W.1, for the erection of their new Spitalfields branch at the corner of Commercial-street and Lamb-street, E.1. The plans have been prepared by Mr. W. Curtis Green, A.R.A., 7, Pickering-place, St. James, S.W.1.

Tooting.—CHURCH.—Plans have been prepared by Mr. Burke Downing, F.R.I.B.A., architect, 12, Little College-street, Westminster, S.W.1, for a church to accommodate over 500 people at Tooting, S.W.

Wimbledon. — OFFICES. — The Wimbledon Borough Council has approved the application of Mr. G Smith for showrooms, offices, etc., and dwelling-rooms over, in Coombe-lane, next to Raynes Park Cinema.

Wood Green. — PREMISES. — The Wood Green Urban District Council has sanctioned the plans submitted by Mr. G. E. Holditch for business premises in High-road, Wood Green, for Messrs. Cakebread, Robey & Co.

LAW REPORT

HIGH COURT OF JUSTICE,
CHANCERY DIVISION
(Mr. Justice Eve).

TWICKENHAM BUILDING DISPUTE. GOODBODY *v.* MLINARIC.

Mrs. E. Goodbody, the plaintiff, of 5, Crossdeep, Twickenham, Middlesex, brought the action against the defendant, Matjas Mlinaric, of 3, Crossdeep, Twickenham, to recover damages for the alleged wrongfully erecting a garage abutting on the plaintiff's premises and for an injunction restraining any further erection of such a building.

It appeared that Nos. 5 and 3, Crossdeep, were built on land which originally formed part of the Crossdeep Estate, which Sir F. M. Freake, the tenant for life, developed as a residential estate. The plaintiff's case was that this gentleman imposed on purchasers of the plots sold, stipulations and regulations for their benefit and for the benefit of the estate generally. Plaintiffs said that one of the stipulations prohibited the erection of any building in the gardens without the written consent of the vendor or his successors in title, and that this was done for the purpose of preserving the views which the houses of the parties enjoyed of the River Thames.

Mr. C. A. Bennett, K.C. (with him Mr. F. D. Morton), for the plaintiff, submitted that Sir F. M. Freake had laid out the estate in accordance with a general scheme of building development.

Mr. H. S. Scott, an architect and surveyor, of Birmingham, who had acted for plaintiff's predecessors in title, gave evidence that he had been informed that the gardens could not be built upon and that there had to be a certain width between the houses to allow persons passing along the road to see the river.

Mr. C. H. Glover, a director of Messrs. Breadmore & Webb, Ltd., surveyors and estate agents, of Richmond, Surrey, also gave evidence for the plaintiff.

Mr. Farwell, K.C. (with him Mr. L. W. Byrne), for the defendant, contended that the plaintiff had not proved the existence of a building scheme, and that the covenants imposed by the vendor were such as could at any moment be waived. The defendant denied that they were imposed for the preservation of the views of the river. He further submitted that, the vendor having parted with his interest in the property, there was no one now whose licence was required for the completion of the garage, the plans of which had been approved by the District Council.

In the result, Mr. Justice Eve gave judgment, holding that there was a development agreement but no building scheme. He accordingly dismissed the action with costs. He also directed an inquiry as to damages resulting to the plaintiff by reason of the *interim* injunction which had been granted, the costs of which inquiry he reserved.

Judgment accordingly.

NEW CINEMAS

Llanelly.—Plans for a new £50,000 cinema for Messrs. W. Morgan & Co. are shortly to be brought before the Borough Council. The proposed site is at Fairfield, and the architects are Messrs. S. R. Crocker & Co., Chappell's Chambers, 37, Castle-street, Swansea.

Raynes Park.—Plans have been approved by the Surrey County Council for a super-cinema at Raynes Park, for the R.P. Cinemas, Ltd. 1,900 people will be accommodated, and the architect is Mr. Robert Atkinson, F.R.I.B.A., 36, Bedford-square, W.C.1.

Reading.—Plans have been passed by the County Borough for a new cinema at the western corner of Russell-street and Oxford-road, for Mr. R. Fort.

Hull.—Plans for the erection of a new cinema house on Beverley-road, Hull, are being prepared. The residence of the late Mr. Alfred Mayfield has been acquired, and the site will be cleared and a building for the Eureka Cinema Company will be erected. The architects are Messrs. Freeman, Son & Gaskell, F.R.I.B.A., 11, Carr-lane, Hull.

PATENTS

APPLICATIONS PUBLISHED.*

283,898.—Consortium Electro-Chimique de France: Process and plant for the production of lead minium having a high peroxide content.

291,706.—G. B. Ellis: Compressed-air centrifugal device for concrete, mortar and sand.

284,634.—P. Voglsamer: Apparatus for mixing liquids and solids such as concrete or mortar.

285,411.—Inventia Patent-Verwertungs-Ges: Floor-treating apparatus.

295,955.—T. G. McDougal: Heat-treatment of ceramic articles.

295,975.—E. Hayward: Method and apparatus for the production of red lead.

296,163.—H. P. Tattersall: Machines for boring wood and other similar material.

296,186.—Smith, Major & Stevens, Ltd., and P. H. Stevens: Operating-mechanism for sliding doors.

281,283.—M. Mambourg: Metal Piling.

296,239.—M. Rathjens: Device for excavating lower-ground strata.

282,810.—British Thomson-Houston Co., Ltd.: Moulded articles such as tiles and slabs.

296,262.—F. M. Aycock: Scaffold jacks.

286,611.—Fiat Soc. Anon.: Attachment of mouldings to wall or other surfaces.

289,013.—Soc. Baude Freres et Cie: Assembly parts for structural ironwork.

271,090.—Consortium fur Elektro-Chemische Industrie Ges.: Process of sticking, cementing, impregnating, or filling, and manufacture of agents therefor.

295,798.—A. W. Miller: Devices for fixing objects such as coat- or hat-hooks, electric switches, ceiling-roses, and other objects to walls, partitions, and ceilings composed of laths and plaster.

295,819.—F. Kress: Apparatus for the determination of the cuts of roof jack-rafters.

282,458.—Dr. A. Wacker Ges. fur Elektro-Chemische-Industrie Ges.: Manufacture of hydraulic cement.

295,894.—C. S. Johnson: Method for proportioning total water in concrete.

284,654.—Manufacture de Machines Auxiliaries pour l'Electricite et l'Industrie: Arrangement for application of bakelized wood, for the construction of machine bearings.

291,784.—Barber Asphalt Co.: Processes of curing cementing materials.

275,262.—O. Hardt and Continentale Handel and Transport Maatschappij: Method and apparatus for the construction of slab walls.

* **All these applications are now in the stage in which opposition to the grant of Patents upon them may be made.**

RATES OF WAGES IN THE BUILDING TRADE

[Every endeavour is made to ensure accuracy but we cannot be responsible for errors.]

	Masons.	Brick-layers.	Car-penters Joiners.	Plas-terers.	Slaters.	Plum-bers.	Pain-ters.	Lab-ourers.
Aberdare	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Accrington	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Aldershot	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Alfreton	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Alnwick	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Altrincham	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Ashford Kent	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Ashington	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Ashton-under-Lyne	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Aylesbury	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Aylsham	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Banbury	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Barnsley	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Barnstaple	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Barrow-in-Furness	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Barry	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Basingstoke	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Bath	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bedford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Berwick	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Bexhill	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Birkenhead	1/10	1/10	1/10	1/11	1/10	1/10	1/9½	1/4½
Birmingham	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Bishop Auckland	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Blackburn	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Blackpool	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Bolton	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Bournemouth	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bradford	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Bradford-on-Avon	1/4	1/4	1/4	1/4	1/4	1/4	1/3	1/0
Braintree	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Brentwood	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Bridgwater	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Bridlington	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Brighton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bristol	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Bromsgrove	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Bromyard	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Bungay	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Burnley	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Burton-on-Trent	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Bury	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Buxton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Cambridge	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Canterbury	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Cardiff	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Carlisle	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Chatham	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Chelmsford	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Cheltenham	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Chester	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Chesterfield	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Chorley	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Cirencester	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/0½
Clacton	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Colchester	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Coventry	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Cranbrook	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Crewe	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Cromer	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Darlington	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Deal	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Denbigh	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Derby	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Devizes	1/4	1/4	1/4	1/4	1/4	1/4	1/3	1/0
Dewsbury	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Doncaster	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Dorchester	1/4	1/4	1/4	1/4	1/4	1/4	1/3	1/0
Dorking	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Dovercourt	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Driffield	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Droitwich	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Dudley	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Durham	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Eastbourne	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/2½
E. Glam. (Mon. Val.)	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Ely	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Exeter	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/2
Exmouth	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Fakenham	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Felixstowe	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Folkestone	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Frome	1/4	1/4	1/4	1/4	1/4	1/4	1/3	1/0
Glossop	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Gloucester	1/6	1/6	1/6	1/6	1/6	1/6	1/5	1/1½
Godalming	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Goole	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Gosport	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Grantham	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Great Yarmouth	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Grimsby	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Guildford	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Halifax	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Harpenden	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Harrogate	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Hartlepools	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Harwich	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Hastings	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Hatfield	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Hednesford	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Hereford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/4½	1/1½
Herne Bay	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Hertford	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Hitchin	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Hoddesdon	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Holt	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Huddersfield	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Hull	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Hunstanton	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Huntingdon	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Isle of Wight	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Ipswich	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Keighley	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Kettering	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Kidderminster	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
King's Lynn	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Lancaster	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Leamington Spa	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Leeds	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Leicester	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Leighton-Buzzard	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Lichfield	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Lincoln	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Littlehampton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Liverpool	1/10	1/10	1/10	1/11	1/10	1/10	1/9½	1/4½
Llandudno	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Llanelly	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
London:								
12 m. radius	1/9	1/9	1/9	1/9	1/9	1/9	1/8	1/4
12-15 m. radius	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/7½	1/3½
Loughborough	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Lowestoft	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Luton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Macclesfield	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Maidstone	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Malvern	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Manchester	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Mansfield	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Margate	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Market Harb'rough	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Matlock	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Melton Constable	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Melton Mowbray	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Merthyr Tydfil	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Middlesbrough	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Newark	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Newbury	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Newcastle-on-Tyne	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Newcastle-ur-Lyme	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
New Forest	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Newmarket	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Newport, Mon.	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Northampton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2
Norwich	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Nottingham	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Nuneaton	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Oakham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Oldham	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Oxford	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/2
Paignton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Peterborough	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Plymouth	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Pontypridd	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Portsmouth	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Preston	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Ramsgate	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Reading	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Redcar	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Redditch	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Reigate	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Retford	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Ripon	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Rochdale	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Rochester	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Rugby	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Saffron Walden	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
St. Albans	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
St. Helens	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Sawbridgeworth	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Saxmundham	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Scarborough	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Sevenoaks	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Sheffield	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Shrewsbury	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Sittingbourne	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Southampton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Southend-on-Sea	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Southport	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
South Shields	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Stevenage	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Stockport	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Stockton-on-Tees	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Stoke-on-Trent	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Stourbridge	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Stourport	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Stowmarket	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Stratford-on-Avon	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Stroud	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Sunderland	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Swaffham	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Swansea	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Swindon	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/4½	1/1½
Tamworth	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Taunton	1/5	1/5	1/4	1/5	1/4	1/5	1/4	1/0½
Thetford	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Torquay	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Totnes	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Trowbridge	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Tunbridge Wells	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Uttoxeter	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Wakefield	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Walsall	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Wallsend	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Warminster	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Warrington	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Warwick	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Wells (Norfolk)	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Welwyn Gar. City	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
West Bromwich	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Weston-sup.-Mare	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Weymouth	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Whitby	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Wigan	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Winchester	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Windsor	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Wisbech	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Wolverhampton	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Woodbridge	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Worcester	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Worksop	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Worthing	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Wrexham	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Wroxham	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Wymondham	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
York	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½

For rates of wages in the Building Trade in Scotland, see page 742

CONTRACTS, COMPETITIONS, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed, that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given is the latest date when the tender, or the names of those willing to submit tenders, may be sent in, the name and address at the end is the person from whom or place where quantities, forms of tender, etc., may be obtained.

Following is a list of abbreviations :—Borough Surveyor, B.S.; Borough Engineer, B.E.; District Surveyor D.S.; Clerk, C.; Town Clerk, T.C.; County Engineer, C.E.; County Surveyor, C.S.; County Architect, C.A.; Surveyor, S.; Engineer, E.; Borough Architect, B.A.; Architect, A.

BUILDING, PAINTING, ELECTRIC LIGHTING, HEATING, etc

NOVEMBER 3.

West Ham.—Hot Water Heating Apparatus—Installation of, at South Hallsville new school, Agate-st., Tidal Basin, for the West Ham B.C. John H. Jacques, L.R.I.B.A., 61, West Ham-lane, Stratford, E.15. Dep. £1.

NOVEMBER 5.

Belfast.—Church.—Erection of proposed new St. Clement's Church, Templemore-av., Belfast, for the Select Vestry. M'Carthy & Lilburn, chartered surveyors, Scottish Provident Buildings, Belfast. Dep. £5 5s.

Feltham.—Houses.—200 houses and roads near Harlington-rd., for U.D.C. J. P. Blake, architect, 31, Lampton-rd., Hounslow. Dep. £2 2s.

Hendon.—Hospital Buildings.—Erection of new chronic infirm wards and mortuary at the rear of the Infirmary, Edgware, for the Guardians of the Hendon Union. Union Offices, Edgware Dep. £5.

Hendon.—Stonework and Steelwork.—Required in connection with the construction of the Hendon Public Library, for the U.D.C. T. M. Wilson, architect, 4, Staple Inn, W.C.1.

Roggiett.—Houses.—5 pairs of houses, with length of road and sewer to serve them, on Crossway, Roggiett, Mon, for G.W. (Severn Tunnel Junction) Garden Village Society, Ltd. T. Alwyn Lloyd, F.R.I.B.A., 6, Cathedral-rd., Cardiff. Dep. £2 2s.

St. Stithians.—House.—At St. Stithians, for Cornwall E.C. F. G. Drewitt, architect, Lloyds Bank-chambers, Penzance. Dep. £1 1s.

Sheffield.—Conveniences.—At Neepsend-lane and Rutland-rd.; Attercliffe-rd. (adjoining Greyhound Hotel), and Main-rd., Darnall (Old Bradley Well public house), for T.C. W. George Davies, F.R.I.B.A., City Architect. Dep. £5.

Tiverton.—Houses.—6 non-parlour and 2 parlour, for T.C. A. M. Kinnison, B.S. Dep. £1 1s.

Urmston.—Flooring.—Removal of old boarded and joist floors from the two chapels at the cemetery, including considerable earth works, and for new granolithic and wood block floors for a total area of approximately 120 sq. yds., for U.D.C. C. A. Hindle, architect, 16, John Dalton-st., Manchester.

Weymouth.—Houses.—5 pairs of semi-detached dwellings in parish of Wyke Regis, for R.D.C. Andrews & Andrews, architects, 157, Dorchester-rd. Dep. £2 2s.

Wilts.—Cottages.—Police cottage at each of following places:—Burbage, East Grafton, Fovant, and Hindon,, for C.C. T. Walker, F.R.I.B.A., C.A., Trowbridge. Dep. 10s. 6d. each.

NOVEMBER 6.

Redcar.—Post Office and Telephone Exchange.—Erection of, at Redcar, for the Commissioners H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

Richmond, Surrey.—Cottages.—26 non-parlour type on the Manor-rd. estate, for the Richmond B.C. Borough Engineer & Surveyor, Town Hall, Richmond, Surrey.

Tewkesbury.—Houses.—4 non-parlour type, on housing site, Cleeve-rd., Stoke Orchard, for R.D.C. C. H. G. Shorland, District Surveyor.

NOVEMBER 7.

Boscombe.—Telephone Exchange.—Erection of, for the Commissioners, H.M.O.W., Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

Grantham.—Houses.—44 non-parlour type, on Pelton-lane site, for T.C. P. A. Benn, B.S. Dep. £2 2s.

Harrogate.—Painting.—Also whitewashing, etc., at Royal Bath Hospital. E. P. L. Dixon, secretary.

Hastings.—Heating.—Installation of heating apparatus at Post Office and Telephone Exchange, for H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

Hockley.—Additions.—To Hockley High-rd. Council school, for the Essex C.C. Jno. Stuart, F.R.I.B.A., Cty. Architect, Springfield Old-court, Chelmsford. Dep. £1 1s. to F. H. Owers, F.S.A.A., Cty. Accountant, Duke-st., Chelmsford.

Hoylake and West Kirby.—Pavilions.—Pavilion at putting-green, Meols Promenade; pavilion at tennis courts, Upper-park, West Kirby, for U.D.C. E. and S. Dep. £1 1s.

Ireland.—Building.—For National school at Doochary, Co. Donegal; improvements to Aughleam National school, Co. Mayo; enlarging Gortnabrade National school, Co. Donegal; Improvements to Shraigh National school, Co. Mayo; and National school at Dunamaggan, Co. Kilkenny, for Commissioners of Public Works. T. Cassedy, secretary, Office of Public Works, Dublin. Dep. £1 each.

London.—Ambulance Garage.—Erection of, at premises in Bancroft-rd., E.1, for the Stepney Board of Guardians. S. McClelland, Clerk, Administrative Offices, Bancroft-rd., E.1. Dep. £1 1s., to the Treasurer.

London.—Painting and Cleaning Works.—At Adastral House, Kingsway, for the Commissioners H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

Rathdown.—Repairs.—Alterations and additions to 15 cottages at Taney-park, Dundrum, for the Irish Sailors' and Soldiers' Land Trust. R. E. Beckerson, chief clerk, 50-51, Upper Mount-st., Dublin. Dep. £1 1s.

Stepney.—Patent Flooring.—Laying of new patent composition flooring in the kitchen at the St. Peter's (Whitechapel) Hospital. S. McClelland, Clerk, Administrative Offices, Bancroft-rd., E.1. Dep. 10s. 6d., to the Treasurer.

Stepney.—Repairs.—Repairing of the boiler-house chimney shafts at the Bromley House Institution and St. Peter's (Whitechapel) Hospital, for the Stepney Board of Guardians. S. McClelland, Clerk, Administrative Offices, Bancroft-rd., E.1. Dep. 10s. 6d.

West Bromwich.—Painting.—For (a) painting and redecorating to wards at Hallam House, and (b) repairs to floors, ceilings and stone stairs at Hallam House, for B.G. A. H. Ward, clerk.

NOVEMBER 8.

Hebburn.—Demolition.—Dismantling old buildings and clearing site at the depot adjoining railway station, for U.D.C. H. Paterson, S.

Hitchin.—Alterations and Enlargements.—Of the Post Office and Telephone Exchange, for the Commissioners H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

Ireland.—Building.—For building for Garda Siochana at Tulsk, Co. Roscommon; building for Garda Siochana at Ballyforan, Co. Roscommon; same for Garda Siochana at Allihies, Co. Cork; same for Garda Siochana at Ballinspittle, Co. Cork; reconstruction of building for Garda Siochana at Glin, Co. Limerick, for Commissioners of Public Works. T. Cassedy, secretary, Office of Public Works, Dublin. Dep. £1 each.

Larne.—Plumbing and Electric Light.—Contracts for the B.G., at the extension to the Fever Hospital. W. Pleasance, M.I.E.E., 44, Wellington-place, Belfast.

Nottingham.—Telephone Exchange.—Erection of, at Arnold, Nottingham, for the Commissioners, H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

Portlaoghis.—Alterations.—To Shaen House, to constitute a County Tuberculosis Hospital, for Laoighis Board of Health and Public Assistance. Denis Heaney, B.E., engineer and architect, Thurles. Dep. £6 6s.

Runcorn.—Employment Exchange.—Erection of, at Runcorn, for the Commissioners, H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

NOVEMBER 9.

Bacup.—Employment Exchange.—Erection of, at Bacup, Lancashire, for the Commissioners, H.M.O.W., Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

Dublin.—Improvements.—For (1) plastering works and completion of blocks J. and K. of Custom House, Dublin; (2) forming carriage ways, approaches and other incidental works, at the Custom House, for Commissioners of Public Works. T. Cassedy, secretary, Office of Public Works, Dublin. Dep. £1 each.

Kingston-on-Thames.—Employment Exchange.—Erection of, at Kingston-on-Thames, for the Commissioners, H.M.O.W., Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

London.—Painting Works.—At H.M. Stationery Office, Shepherdess-walk and Underwood-st., N., for the Commissioners H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

NOVEMBER 10.

Aylesbury.—Painting.—Also decorating of exterior of electricity works, for T.C. Wm. Harold Taylor, B.E. and S.

Bexhill.—Pavilion, Grandstand and Lavatories.—Erection of, in the Polegrove, Bexhill, for the B.C. Borough Surveyor, Geo. Ball, Assoc.M.Inst. C.E., Town Hall, Bexhill. Dep. £1 1s.

Dover.—School.—Secondary school for boys, for Kent E.C. W. H. Robinson, F.R.I.B.A., Room 69, Sessions House, Maidstone. Dep. £2 2s.

York.—Footbridge.—Over the River Foss to take place of Blue Bridge, for T.C. F. W. Spurr, City E. Dep. £2 2s.

NOVEMBER 12.

Bath.—Alterations.—New boiler, alterations and additions to laundry, domestic hot-water services in Institution, and heating of Infirmary, at Frome-rd. House, for B.G. E. S. Hoare, A.M.I.C.E., consulting engineer, Bristol. Dep. £3 3s.

Birmingham.—Renovations.—To one of wards at City Sanatorium, Rednal-rd., Northfield, and also at Disinfectant Station, Bacchus-rd., Winson Green, for T.C. R. T. Cooke, Manager of Works, City Hospital, Little Bromwich.

Crayford.—Various Works.—(a) Alterations, additions and renovation, (b) a complete heating and hot water installation, and (c) electric lighting installation for the Crayford U.D.C. Frank Leary, E. and S., Council Offices, Crayford. Dep. £3 3s.

Hull.—Steam Heating and Water Supplies.—Entire remodelling of, at the Hull City Mental Hospital, Willerby, for the Hull Corporation D. Harvey, A.R.I.B.A., C.A., Guildhall, Hull. Dep. £2 2s.

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Kirkconnel.—Additions.—Mason, joiner, slater, plumber and plaster works in connection with proposed additions and alterations at Police Station, for Dumfries C.C. John Robson, County Clerk, County-buildings, Dumfries.

Lewisham.—Houses.—Erection and completion of 8 "B" type houses on the Lewisham (Grove Park) Housing Estate, for the Metro. B.C. W. R. Davidge, F.R.I.B.A., 5, Victoria-st., Westminster, S.W.1. Dep. £2 2s.

London.—Dwellings and Shops.—Erection of, at Holland Estate, Stepney, for the L.C.C. Architect to the Council, the County Hall (Room No. 3), Westminster Bridge, S.E.1. Dep. £2.

London.—Houses.—Erection of 32, of brick construction, on the Bellingham Estate, Catford, S.E., for the L.C.C. Chief Engineer and Administrator of Housing Development, 3, Warwick House-st., Cockspur-st., Charing-cross, S.W.1. Dep. £1.

Rathmines and Rathgar.—Heating.—Installation of plant necessary for heating of the Town Hall and offices, for U.D.C. S.

Tyldesley-with-Shakerley.—Houses.—52, on Sale-lane site, Tyldesley, for U.D.C. F. E. Jones, E. and S. Dep. £1 1s.

Wallasey.—Mortuary.—In Rake-lane cemetery, for C.B. B.E. and S. Dep. £1 1s.

Wellingborough. — Pavilion. — At Swanspool-gardens, for U.D.C. R. Stevenson Henshaw, E. and S. Dep. £1 1s.

York.—Senior Departments.—Erection of two to the Tang Hall Council school, for the City of York E.C. G. H. Gray, Secretary, Edn. Offices, Clifford-st., York. Dep. £2 2s.

NOVEMBER 13.

Adwick-le-Street.—Fencing.—Unclimbable fencing to playing field at Carcroft Park-lane Council school, for West Riding E.C. Education Department, County Hall, Wakefield.

Bentley.—Lighting.—Installation of electric lighting, at New Middle school, for West Riding C.C. Education Department, County Hall, Wakefield.

Edmonton.—Fencing.—950 yds. of wrought-iron fencing and gates for Upper Edmonton Recreation Ground, for U.D.C. C. Brown, E. and S.

Hampton.—Building.—Engine house at Air Compressing Station, Sewage Disposal Works, Hanworth-rd., for U.D.C. S. H. Chambers, S. Dep. £1 1s.

Liverpool.—Alterations.—Private bathrooms, etc., at Cornwallis-st. baths, for T.C. Baths Manager, 75, Dale-st.

Liverpool.—Building.—Police station, fire station and residences at Rose-lane, Mossley Hill, for T.C. Land Steward and Surveyor. Dep. £10 10s.

Romford.—Exchange.—Telephone exchange, for H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

Sunderland.—Houses.—For (1) construction of roads, sewers, yards, levelling of sites and demolition of buildings in Spring Garden-lane and Flag-lane; and (2) 24 3-roomed houses in Spring Garden-lane and Flag-lane, for C.B. B.E. Dep. £2 2s. each.

Tamworth.—Houses.—For (*a*) 56 non-parlour type; and (*b*) about 380 yds. of roadway, consisting of tarmacadam carriageway and paths, grass verges, kerbing, etc., and about 1,400 ft. of 9 in. and 6 in. stoneware sewers, together with manholes, gullies, etc., on Leys site, for T.C. A. Oswald Marshall, B.E. and S.

West Riding.—Extension.—Also alteration to heating installation at Ilkley, Ben Rhydding Council school, for West Riding E.C. Education Department, County Hall, Wakefield.

NOVEMBER 14.

***Birkenhead.**—New Work Shops and General Offices.—Erection of, on the Gas Works Estate, Birkenhead, for the Corporation. Gas Engineer, Harold E. Stone, Gas Works, Thomas-st., Birkenhead. Dep. £2 2s.

Dublin.—Roofing.—Also other works at Central Block of Four Courts, for Commissioners of Public Works. T. Cassedy, secretary, Office of Public Works. Dep. £1.

Poplar. — Decorations. — Indoor and outdoor decoration of Langley House, 54, East India Dock-rd., Poplar, E.14, for the Poplar Board of Guardians. Harley Heckford, M.Inst.C.E., B.E. and S., Council Offices, High-st., Poplar, E.14. Dep. £1 1s.

Sevenoaks.—Cottages.—4 in parish of Cowden, for R.D.C. J. N. Prior, Building Surveyor. Dep. £2 2s.

South Shields.—Employment Exchange.—Erection of, at South Shields, for the Commissioners, H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

Stoke-on-Trent.—Wiring.—Overhead wiring and services to 64 new houses, Sutton estate, Trent Vale, for T.C. City Electrical Engineer, St. George's-chambers, Kingsway. Dep. £2.

NOVEMBER 15.

Greenwich.—Extensions and alterations.—To the Administrative Offices of the Greenwich Union, including Women's Receiving Ward, Offices, etc., for the Guardians. William A. Pite, Son & Fairweather, architects, 12, Carteret-st., Queen Anne's gate, S.W.1. Dep. £3 3s.

Loch Sunart.—House.—For medical officer at Refollan, Salen, Loch Sunart, for Ardnamurchan P.C. L. Falconer, architect, Albany-st., Oban.

NOVEMBER 16.

Oxford.—Shed.—Goods shed at Morris Cowley Station, for G.W.R. Engineer, Paddington Station. Dep. £2 2s.

Pontypridd.—Houses.—For (a) erection at housing site, Rhydfelen, Pontypridd, of 40 non-parlour-type houses, and (b) construction of the necessary roadways, footpaths, sewers and surface water drains, for U.D.C. W. E. Lowe, E. and S. Dep. £2 2s.

NOVEMBER 17.

Bristol.—Flats.—Block of flats at Lawford's-gate, for T.C. L. S. McKenzie, City S. and E., 51, Prince-st. Dep. £1.

Wembley.—Hall.—Erection of, at Wembley, for the Wembley Brotherhood. John Piggott, A.R.S.I., 66, Spencer-rd., Wealdstone, Middx.

NOVEMBER 19.

Barnsley.—School.—Mixed junior and senior school at Cundy Cross, for E.C. Dyson, Cawthorne and Coles, architects, 10, Regent-st.

Hull.—Pavilion.—For 40 patients, at Institution for Mentally Defectives, Tilworth Grange, Sutton, for T.C. D. Harvey, A.R.I.B.A., City Architect. Dep. £2 2s.

***Kidderminster.**—New Fire Station.—Erection of, in Castle-rd., Kidderminster, for the Borough Council. J. Hawcroft, B.E. and S., 110, Mill-st., Kidderminster. Dep. £2 2s.

Liverpool.—School.—New Central Council school at Evered-av., Fazakerley, for T.C. Land Steward and Surveyor. Dep. £2 2s.

London.—Dwellings.—Erection of two blocks and other incidental works at Collingwood Estate (Brady Street Area), Bethnal Green, for the L.C.C. Architect to the Council, the County Hall (Room No. 3), S.E.1. Dep. £2.

Luton.—Library.—Branch library on Marsh-rd., Limbury, for T.C. J. W. Tomlinson, B.E. and S., 18, Upper George-st.

Naas.—Installation.—Electric wiring installation in Courthouse and offices of Committee of Agriculture and N.H. Insurance office, Naas, for Kildare C.C. McEntee & O'Kelly, consulting engineers, 23, Upper O'Connell-st., Dublin. Dep. £2 2s.

***Plymouth.**—Concrete Terraces and Bathing Houses.—Construction of, in connection with the extension of bathing facilities at Tinside, for the Plymouth City Council. J. Wibberley, City Engineer, Municipal Offices. Dep. £2 2s., to City Treasurer.

Preston.—Alterations and Additions to the Technical School, Corporation-st., Preston, for the Building Committee of the Harris Institute, Preston. E. J. Andrew, architect, 33, Winckley-sq., Preston. Dep. £1.

Wisbech.—Offices.—Sanitary offices and for certain alterations at Elm-rd. Council school, for Isle of Ely E.C. C.S., County Hall, March.

NOVEMBER 20.

Leeds.—School.—First section of council school, Osmondthorpe, for E.C. J. Graham, Director of Education, Calverley-st.

***London.**—Internal Painting, etc., at Dudley House, Endell-st., W.C., for the Commissioners, H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

***London.**—Internal and External Painting, etc., at the Public Trustee Office, Kingsway, W.C., for the Commissioners, H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

Newcastle-upon-Tyne.—Works.—Plumbers' and smiths' work in the Newcastle-upon-Tyne district during the period of three years, for H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. 10s. 6d.

Newton Abbot.—Houses.—6 houses at Dunstone, Widecombe-in-the-Moor, for R.D.C. B. H. Palmer, L.R.I.B.A., 11, Union-st.

NOVEMBER 21.

***Kensington.**—Internal Painting at the Victoria and Albert Museum, South Kensington, S.W., for the Commissioners, H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

***Teddington.**—Extensions to the Chemical Research Laboratory, Teddington, Middlesex, for the Commissioners, H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

NOVEMBER 22.

***Norwich.**—Telephone Exchange.—Erection of, at Eaton, Norwich, for the Commissioners, H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

***Potters Bar.**—Telephone Exchange.—Erection of, at Potters Bar, Middlesex, for the Commissioners, H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

NOVEMBER 23.

Chelmsford.—Houses.—100, on Boarded Barns estate, together with erection of fences, laying of house drainage and formation of paths appertaining thereto, for T.C. E. J. Miles, B.E. Dep. £2 2s.

***Leatherhead.**—Telephone Exchange.—Erection of, at Great Bookham, Leatherhead, for the Commissioners, H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

***Mansfield.**—Employment Exchange.—Erection of, at Mansfield, for the Commissioners, H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

NOVEMBER 26.

***Beckenham, Kent.**—Building Works.—(*a*) Fireman's Quarters, Bromley-rd.; (*b*) Highways Depot at Churchfields-rd., for the Beckenham U.D.C. H. Storr Best, S., Council Offices, Beckenham. Dep. £5.

NOVEMBER 27.

Woking.—Garage.—Garage in connection with depot, for U.D.C. C. J. Wooldridge, S. Dep. £1 1s.

NO DATE.

Batley.—Shops.—4 shops in Branch rd. S. P. Fairhurst, architect, Eastthorpe House, Mirfield.

Braithwaite.—School.—Open-air school. A. P. Harrison, L.R.I.B.A., architect, High-close, Keighley.

Cardiff.—Buildings.—On site of Culley's Stores, Queen-st. T. W. Price, 35, Fields Park-rd

Cowplain.—Residence.—In Queen's-rd., for Lt.-Com. R. F. Knight, R.N. J. Auty, A.R.I.B.A., Flint House, South-st., Chichester.

***Lancashire.**—Hospital Buildings, etc.—Erection of, at Wrightington Hall, near Wigan, for the Lancashire C.C. Stephen Wilkinson, F.R.I.B.A., 16, Ribblesdale-place, Preston. Dep. £5.

Near Harlow.—Cottage.—At Hatfield Heath, near Harlow, for Essex C.C. C. Lock, County Land Agent, 69, Duke-st., Chelmsford

Wells.—Roofing.—Stripping and retiling of roofs and stripping and relaying of lead flats and other works to 4 houses in Park-rd., for U.D.C. T. Inglis Goldie, A.R.I.B.A., Wells, Norfolk.

MATERIALS, etc.

NOVEMBER 5.

Tadcaster.—Sand.—For R.D.C. G. A. Bromet, C.

NOVEMBER 6.

Aldershot.—Fencing.—Supply and delivery of two lengths of iron fencing, for T.C. B.S.

Barking Town.—Road Materials.—For U.D.C. R. A. Lay, engineer.

Dublin.—Builders' Materials.—For Port and Docks Board. E. H. Bailey, secretary, Westmoreland-st.

NOVEMBER 8.

Bristol.—Builders' Materials.—For T.C. City E. and S., 63, Queen-sq.

NOVEMBER 10.

Bradford.—Builder's Materials.—For Corporation Tramways Committee. R. H. Wilkinson, general manager, 7, Hall Ings.

East Sussex. — Road Materials. — For C.C. H. E. Lunn, C.S.

NOVEMBER 12.

Dublin.—Bricks, etc.—For United Tramways Co. (1896), Ltd. G. Marshall Harris, General Manager, 59, Upper O'Connell-st.

West Sussex.—Tar.—200,000 gallons, for C.C. H. W. Bowen, C.S.

West Sussex.—Highway Materials.—For C.C. H. W. Bowen, C.S., Southgate House, Chichester.

NOVEMBER 13.

Dublin.—Builders' Materials.—For Gt. Northern Rly. (Ireland), Ltd. F. C. Wallace, secretary, Amiens-st. Station.

NOVEMBER 14.

Cambridge.—Road Materials.—For C.C. A. E Peake, C.S.

***Croydon.**—Approximately 2,300 cub. yds. of sand, 1,000 cub. yds. of clean pebbles, 100,000 High Brooms red engineering bricks laying at the Pumping Station of the Corporation at Addington, for sale by tender. Particulars, B.E., Town Hall, Croydon.

Nottingham.—Builders' Materials.—For Gas Department. Engineer and General Manager, Gas Offices, 6, George-st.

NOVEMBER 15.

London.—Builders' Materials.—For Wandsworth B.C. D. A. Nicholl, T.C.

NOVEMBER 17.

West Hartlepool. — Highway Materials. — For C.B. F. Durkin, B.E.

NOVEMBER 19.

Congleton.—Pipe.—For 11 tons or thereabouts 7 to 10 in. flanged pipes, 4 tons or thereabouts 7 to 10 in. flanged specials, 5 tons or thereabouts 7 to 10 in. ordinary socket pipes, 90 tons or thereabouts 7 in. ordinary socket pipes, 6 tons or thereabouts 6 to 10 in. ordinary specials, for Corporation. W. H. Duncan Arthur, B.E.

Downpatrick.—Tar.—1,000,000 gallons, for Down C.C. Clerk

Halifax.—Castings.—1,300 tons of cast-iron pipes and special castings, chiefly 18 in. diameter, for Gorple Reservoirs, for C.B. G. H. Hill & Sons (Manchester), civil engineers, 40, Kennedy-st., Manchester. Dep. £1 1s.

NO DATE.

Salford.—Bricks.—Retorts, firebricks, etc., for T.C. Gas Engineer, Gas Offices, Bloom-st,

ENGINEERING, IRON AND STEEL

NOVEMBER 5.

Scarborough.—Widening.—Of Esplanade, for T.C. H. W. Smith, B.E. Dep. £2 2s.

Slough.—Culvert.—Construction of approx. 600 yds. of concrete tube culvert (24 in. and 27 in. diameter) and manholes, in Ragstone-rd., for U.D.C. A. Bromly, E.

Southend-on-Sea.—Conveniences.—Reinforced concrete shelter and conveniences for children at old "Castle Hotel" site, Eastern Esplanade, and incidental works in connection thereto, for C.B. R. H. Dyer, B.E. and S. Dep. £2.

NOVEMBER 6.

Cheadle and Gatley.—Culvert.—In Broadway, for U.D.C. S.

Enniskillen.—Water Supply.—For village of Tempo, for R.D.C. F. E. Townsend & Son, engineers.

NOVEMBER 10.

Downholland.—Reconstruction.—Of canal bridge and approaches in Downholland, on Maghull to Scarisbrick-rd., for Lancashire C.C. County Surveyor and Bridgemaster, County Offices, Preston.

NOVEMBER 12.

Australia.—Steelwork.—Steel chimneys and dust eliminators, for Yallourn Power Station, for State Electricity Commission of Victoria. W. J. Price, acting secretary, 22-32, William-st., Melbourne, Australia.

Luton.—Sewerage.—For (1) construction of 2½ miles or thereabouts of main foul water sewer; (2) construction of 2 miles or thereabouts of storm water and foul water sewers, for T.C. B.E., 18, Upper George-st. Dep. £2 2s.

NOVEMBER 13.

Southend-on-Sea.—Sewerage.—100 tons of cast-iron manhole shafts, 30 in. in diameter, landing chambers of larger size, and sundry other castings, for C.B. Dodd & Watson, engineers, County chambers, Corporation-st., Birmingham. Dep. £2.

NOVEMBER 17.

Lymington.—Improvements.—Widening, diverting and improving road B.3058 between Milton U.D. boundary and Everton Cross (approximate length 4 miles), including reconstruction of two small bridges, in accordance for R.D.C. E. J. McKaig, engineer, Weston-super-Mare. Dep. £3 3s.

NOVEMBER 19.

Congleton.—Reservoirs.—For (1) Moss Farm elevated reservoir, containing 150,000 gallons; (2) Forge underground storage reservoir, containing 150,000 gallons; (3) Tower elevated reservoir, containing 250,000 gallons; together with whole of necessary cast-iron inlet and outlet piping; laying about 1,700 yds. of 7-in. cast-iron pumping main; alterations to the existing Forge pumping station and other works in connection therewith, for Corporation. Duncan Arthur, Borough Engineer. Dep. £5.

Halifax.—Pipes.—Valves, meters, recorders, and miscellaneous ironwork required in construction of Gorple reservoirs, for C.B. G. H. Hill & Sons (Manchester), 40, Kennedy-st., Manchester. Dep. £2 2s.

NOVEMBER 21.

Orsett.—Sewerage.—Laying of 12 in. and 9 in. sewers, etc., together with construction of settlement tanks, filter beds and humus tank, etc., in parish of Corringham, for R.D.C. G. F. Andrassy, E. and S. Dep. £2 2s.

NOVEMBER 26.

Dublin.—Drainage.—For (1) about 1¾ miles of 9 in. and 12 in. cast-iron sewers, about ¾ mile of 6 in. and 9 in. stoneware pipe sewers, 12 in. rising main under river Liffey, manholes and auxiliary works; and (2) two pumping stations, each consisting of a cast-iron tubbing chamber with brick motor house, together with auxiliary works at each site, for C.B. City Engineer, 28, Castle-st. Dep. £5.

DECEMBER 3.

London.—Bridge.—New bridge with steel superstructure, granite-faced concrete piers founded in caissons and granite faced concrete abutments, at Lambeth, for L.C.C. Chief Engineer of Council, Old County Hall, Spring-gardens, S.W.1. Dep. £20.

DECEMBER 6.

Johannesburg.—Bridge Work.—Structural steel bridge work, for South African Railways and Harbours. Department of Overseas Trade, 35, Old Queen-st., S.W.1. (A.X. 7022.)

ROAD, SEWERAGE, AND WATER WORKS

NOVEMBER 5

Blackpool.—Streets.—Surface-draining and formation of certain streets, for Corporation. F. Wood, B.E. and S. Dep. £1.

Poole.—Resurfacing.—Portions of Bournemouth-rd., for T.C. E. J. Goodacre, B.E. Dep. £5 5s.

NOVEMBER 6.

Birmingham.—Paving.—Supplying, laying and maintaining asphalt paving, as follows:—(1) About 9,763 sq. yds. in Golden Hillock-rd., between Coventry-rd. and Walford-rd.; (2) about 2,650 sq. yds. in Coventry-rd., between Berkeley-rd. and Flora-rd.; and (3) about 6,700 sq. yds. in Pershore-rd., between Dogpool-lane and south junction of Hazelwels-st., for T.C. H. H. Humphries, City E. and S. Dep. £1 each.

Cardiff.—Improvements.—Road improvements: (a) widening at Aberthaw village, Parish of Penmark, and (b) widening at Tredodridge, Parish of Pendoylan; surface water drains:—(c) providing and laying approximately 117 lin. yds. of 18-in. concrete pipes at Pencoetre, Parish of St. Andrews Major; (d) ditto approximately 135 lin. yds. 12-in. earthenware pipes and catchpits, etc., at Station-rd., Peterston-super-Ely; (e) ditto approximately 500 lin. yds. 2-in. wrought iron water pipes, with small collecting tanks and hand pump, at Peterston-super-Ely, for R.D.C. W. Farrow, E. and S., 20, Park-place.

Carshalton.—Making-up.—Of Stanley Park-rd., for U.D.C. R. S. Davey, S. Dep. £2.

Cheadle and Gatley.—Improvements.—To Lynton Park-rd., for U.D.C. S.

Harpenden.—Sewering.—Of Jameson-rd., Clarendon-rd., St. James'-rd., and Lea-rd., for U.D.C. W. H. Johnson, S. Dep. £2.

Keighley.—Sewer.—Laying of 9 in. sewer in Swine-lane, Morton, also for erecting of lavatories at Main-rd., Steeton, for R.D.C. T. Burton, surveyor, Barclays Bank-chambers, North-st.

Prestwich.—Sewer.—130 lin. yds. of 9-in. sewer on Polefield estate, for U.D.C. S. Dep. 10s. 6d.

NOVEMBER 7.

Camborne.—Roads.—Making and laying of new roads and necessary sewers in connection with Council's new housing scheme at Manor and Cranerds., for U.D.C. S.

Clacton.—Road.—Approximately 400 yds. super reinforced concrete carriageway, 200 yds. super forming footpaths with kerbing and incidental works at the entrance to the Council's recreation ground, Vista-rd., for U.D.C. W. Aiston, S.

Cults.—Sewer.—Extension of water main and sewer in Cairn-rd., Bieldside, for Aberdeen D.C. of C.C. Alex. Clark, District Clerk, 7, Bon-Accord-sq.

Kettlebrook.—Paving.—Reconstruction of section of Two Gates, Tanworth main road for length of about 200 lin. yds., near Kettlebrook siding, for Warwickshire C.C. D. H. Brown, C.S., 8, Northgate-st., Warwick. Dep. £1 1s.

Southend-on-Sea.—Sewering.—Of Montague-av., and incidental works, for C.B. H. Dyer, B.E. and S. Dep. £1.

Wembley.—Making-up.—Of Castleton-av., 623 yds.; Rosslyn-crescent, 433 yds.; The Glen, 146 yds.; Meadow Way, 275 yds., for U.D.C. C. R. W. Chapman, E. and S. Dep. £1 1s. each.

Wood Green.—Improvements.—To Hampton-rd., for U.D.C. C. H. Croxford, E. and S. Dep. £1 1s.

NOVEMBER 8.

Leeds.—Paving.—Kerbing, tar paving of footpaths, and tar macadamising carriageways in Roper-av., Montreal-av. (part), Ontario-place, Ottawa-place, for T.C. E. W. Cockerlyne, Highways Engineer. Dep. £1 1s.

NOVEMBER 9.

Blackburn.—Making-up.—Of (1) Warrington-st.; (2) Coniston-rd.; (3) Lowther-place, for C.B. H. M. Webb, Borough and Water Engineer.

Fleetwood.—Reinforcement.—Road reinforcement in construction of Broadway, for U.D.C. E. and S.

NOVEMBER 12.

Ashburton.—Sewers.—521 yds., for U.D.C. T. P. Jordan, Surveyor.

NOVEMBER 13.

Cardiff.—Making-up.—Of Llangynid-rd., Llangattock-rd. (Fairwater), Wyndham-terrace (Llanishen), for T.C. City E.

Gosforth.—Improvements.—To (1) Roseworth-cres., and (2) Elmfield-grove, for U.D.C. G. Nelson, E. and S.

NOVEMBER 14.

Bedford.—Making-up.—Of St. Albans-rd., for T.C. N. Greenshields, B.E. and S. Dep. £2 2s.

Bideford.—Improvements.—To Torridge-hill Corner, Bideford, for T.C. F. J. Harris, B.S.

Heston and Isleworth.—Making-up.— (1) Midsummer-av.; (2) Bulstrode-av., for U.D.C. J. G. Carey, E. and S. Dep. £2 2s.

NOVEMBER 17.

Hambledon.—Making-up.—Of Barton-rd., Bramley, for R.D.C. S. B. Hasell, E. and S. Dep. £2 2s.

NOVEMBER 19.

Bootle.—Road Works.—Reconstruction of carriageway of Park-lane, Orrell, for C.B. B.E. Dep. £1 1s.

Poole.—Resurfacing.—Of Sandbanks-rd., from Park Gates East to Pottery-rd., with reinforced concrete comprising an area of approximately 9,500 super yds., also including works of road widening, laying surface-water drains, and other works incidental thereto, for T.C. E. J. Goodacre, B.E. Dep. £3 3s.

NOVEMBER 22.

Chelmsford.—Sewer.—Formation, construction, maintenance during erection of houses, and final completion of road works and sewer and surface water drains in the extension of North-av. and Ockleford-av., for T.C. E. J. Miles, B.E. Dep. £1 1s.

NOVEMBER 26.

Beckenham.—Widening.—Road widening at junction of Wickham-rd. and South Eden Park-rd., for U.D.C. H. S. Best, S. Dep. £2.

Beddington and Wallington.—Making-up.—Of Farm-lane (part); Sandy Hill-rd., for U.D.C. S. F. R. Carter, E. and S. Dep. £1 1s.

Glasgow.—Sewer.—About ¾-mile long, and measuring 3 ft. 9 in. by 2 ft. 6 in. internal, partly in tunnel and partly in opencast, extending from a point at east end of Alderman-rd., to a point about 125 lin. yds north-east of centre line of Great Western-rd., for T.C. D. Stenhouse, T.C.

Auction Sales Tenders, etc.

NOVEMBER 7.

***London.**—J. Trevor, in conjunction with Trevor & Morris, will sell, by order of Messrs. J. Lyons & Co., Ltd., on the premises, 112, Greyhound-rd., Fulham, S.W., surplus stores, shop fittings and effects. Auctioneers, 23, Coleman-st., E.C.2., and 7, Hanover-st., W.1.

NOVEMBER 12.

***Woolwich.**—Royal Dockyard, Woolwich, S.E. Sale of timber and building material, hydraulic goods lift, complete, etc. Admission by catalogue only, from W. F. Mills, auctioneer, "Langsford," Forty-lane, Wembley Park.

NOVEMBER 29.

***Croydon, Surrey.**—Bowditch & Grant will sell at the Greyhound Hotel, Croydon, factory premises, 107 and 117b, Waddon New-rd., dwelling house and yard, with vacant possession. Auctioneers, 103/105, George-st., Croydon.

DECEMBER 12.

***Bournemouth.**—Fox & Sons will sell, by direction of Mr. F. H. Cooper Christmas, the Receiver for the Debenture Holders of the Ensbury Park (Bournemouth) Racecourse Company, Ltd., at the St. Peter's Hall, Hinton-rd., Bournemouth, freehold property, The Racecourse, Ensbury Park, about 124 acres. The estate is provided with two large grand stands, racing track, buildings and offices. Auctioneers, 44-50, Old Christchurch-rd., Bournemouth.

Public Appointments

NOVEMBER 7.

Exeter.—Architectural Assistant required by the City Council, with experience in measuring for repairs and painting. John Bennett, City Architect, Exeter.

NOVEMBER 10.

Bradford.—Quantity Surveyor required in the City Architect's Department by the Bradford City Council. City Architect, Town Hall, Bradford.

NOVEMBER 12.

London.—Temporary Assistant Architect on the staff of the Miners' Welfare Committee. Under-Secretary for Mines, Establishment Branch, Mines Department, Dean Stanley-st., S.W.1.

NOVEMBER 19.

***Southall.**—Temporary Architectural Assistant required by the Southall-Norwood U.D.C., for a period of about six months. J. B. Thomson, Engineer and Surveyor, Town Hall (addressed foolscap envelope).

NO DATE.

Tanganyika.—Inspectors of Works.—(Two) required by the Government of Tanganyika Territory for the Public Works Dept. for one tour of 20 to 30 months' service. Apply at once, Crown Agents for the Colonies, 4, Millbank, S.W.1, quoting M/1128.

OBITUARY.

Mr. W. V. Anderson.

We regret to record the death, at the age of 58, of Mr. Walter Vickerstaff Anderson, A.M.Inst.C.E., for 28 years City Surveyor of Winchester. Mr. Anderson was a son of the late Mr. W. H. Anderson, J.P., of Kidderminster. He was articled to Mr. Meredith, architect, of Kidderminster, and then went as an assistant to Messrs. Danby, Leigh & Orange at Hong Kong, where he remained three years. Returning to England, he went to Manchester as assistant to the City Engineer, and in 1894 he was appointed deputy surveyor to the Corporation of Cheltenham. When in July, 1900, the post of surveyor to the Corporation of Winchester fell vacant, there were 107 applicants, and Mr. Anderson secured the appointment. At Winchester his first big work was the extension of the main sewerage to the added area, while he introduced up-to-date methods of road-making, notably in High-street, Jewry-street, and Hyde-street. Perhaps his most effective architectural work was the improvement of the stage and the lowering of the roof of the main assembly hall at the Guildhall, while his design for the new ferro-concrete bridge at Tunbridge has been greatly appreciated.

Mr. Henry Snell Gamley, R.S.A.

Mr. Henry Snell Gamley, the sculptor, whose most notable work was the statue of King Edward VII, which forms part of the memorial at Holyrood Palace, and the war memorial in St. Giles's Cathedral, has died in Paris, where he had been professionally engaged for some months.

Mr. Morland Limpus.

The funeral took place on Saturday last of Mr. Morland Limpus, the founder of the firm of Limpus and Son, Government building contractors, of Kingston-on-Thames and Hove. Mr. Limpus was born at Fulham 78 years ago, and although intended to follow his father's business of a dairy farmer in the district of one of his ancestor's (George Morland's) famous scenes, at an early age he entered the building trade, and by sheer industry rose to success. For the past 50 years the name of Limpus has been well known and respected throughout the building trade, and although the activities of Mr. Limpus and his firm have been mainly centred around Surrey, they have by no means been confined to that county, and they now have branch offices and works in Hove and Brighton, from which their Sussex business is controlled. Mr. Limpus was well known to a wide circle of friends, and his kindly, genial nature endeared him to all those who were privileged to know him. He took a keen interest in the younger members of the building craft, and to many his encouragement and inspiration have been stepping-stones to success.

PROPOSED NEW BUILDINGS & OTHER WORKS*

In these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced. Abbreviations: T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; B.G. for Board of Guardians, B.C. for Borough Council; P.C. for Parish Council; M.H. for Ministry of Health; M.T. for Ministry of Transport; C.B. for County Borough; B. of E. for Board of Education. M.A.B. for Metropolitan Asylums Board; and M.W.B. for Metropolitan Water Board; Borough Surveyor, B.S.; Borough Engineer, B.E.; District Surveyor, D.S.; Clerk, C.; Town Clerk, T.C.; County Engineer, C.E.; County Surveyor, C.S.; County Architect, C.A.; Surveyor, S.; Engineer, E.; Borough Architect, B.A.; Architect, A.

Barnet.—U.D.C. passed plans:—Extension of L.G.O. garage, Sydney-rd., London General Omnibus Co.; 8 houses, Sydney-rd., Church Army Housing, Ltd., per S. Soutar; 5 houses, The Ridgeway, Newman & Bloyce, per E. J. Reynolds.

Barnsley.—Joshua Tetley & Son, Ltd., brewers and bottlers, The Brewery, Leeds, are proposing to reconstruct the "Musical Tavern" public-house, Shambles-st. Plans by Kitson, Parish & Ledgard, FF.R.I.B.A., architects, Lloyd's Bank-chambers, Vicars-lane, Leeds.—Barclays Bank, Ltd., acquired premises at Queen's-st., which they propose to reconstruct for branch bank premises. Plans by N. A. Whitham, architect and surveyor, 25, Regent-st.

Barrowford.—Plans for 6 houses in Nora-st., for Russell Bros., Nelson, been approved by U.D.C.

Beddington and Wallington.—U.D.C. passed plans:—Godalming-av., Guildford Way and Sheen Way, 40 houses, for T. Markwick & Co.; Queenswood-av., 4 houses, for All-In Houses, Ltd.; 8 houses and 2 shops in Rectory-lane, for E. M. Swaby; 11 houses, Godalming-av., for J. Gibson & Co.

Birkenhead.—Water Works Committee propose to duplicate pipe line from Cross Hall Reservoir, Thingwall, to Holme-lane, at £20,000.

Birkenshaw.—U.D.C. instructed A. T. Verity & Son, architects, Moor Dean, to get out a full specification for houses to be erected at Drub.

Bishops Stortford.—United Match Industries, Ltd., acquired Kings' factory, Hockenhill-st., which it is proposed to adapt to accommodate new plant and to erect new factory buildings, at £41,100. Architects, Clarkson & Aylwin, 17, Buckingham-st., Adelphi, W.C.2.

Blackpool.—C.B. resolved to recommend that application from Tramways and Electricity Committee for permission to erect a bus shelter on a corner of Claremont Junior School playground be acceded to.—B.S., in collaboration with Parks Superintendent, is to prepare plans and estimate for construction of golf club house at Stanley Park.—Application is to be made to M.H. for sanction to borrowing of £6,424, for erection of property at corner of Rossall-rd. and Victoria-rd., Cleveleys.—E. P. Mawson, architect, submitted revised scheme for conveniences to be constructed in Stanley-park, and Committee approved.—Application is to be made to M.T. for sanction to borrowing of £4,000 for erection of two new buildings at Rigby-rd. tram depot.

Blackpool.—F. T. Waddington, F.R.I.B.A., Abingdon-st., is honorary architect for reinstatement of church in Marton burial ground.

Bolton.—C.B. passed plans:—N. O. Halliwell, 8 houses, Barcroft-rd.; Jas. Bramhall & Sons, 3 houses, Melbourne-rd.; Waterworks Committee, additions to house, 13, St. Helena-rd.; J. Crook (Bolton), Ltd., rebuilding premises, 7 and 9, Bank-st.; S. Main, 4 houses and store, off Chorley Old-rd.; F. Draper, 9 houses, Gregory-av.; H. Jackson, 5 houses, Deane Church-lane; D. J. Tong & Co., lock-up garages and store rooms, Cecil-st.

Bolton.—T.C. sanctioned £50,209 on school which is to be erected at Castle Hill. Architects, Wynne, Thomas & Button, L.R.I.B.A., 25, Wood-st.

Bournemouth.—It is proposed to erect church dedicated to St. Francis of Assisi.

Bradford.—T.C. passed plans for houses:—J. Bentley, Cleckheaton-rd., 4; T. E. Feather, Highfield-rd. and Willowfield-crescent, 8, and Willowfield-crescent, 4; A. Sutcliffe, Moorside-rd., Eccleshill, 6; J. E. Keighley, Cyprus-drive, 6; F. P. Leach & Sons, Ltd., St. Leonard's-grove, 8; J. Priestley, Hawes-drive, 4; J. A. Groves, Briarwood-crescent and Briarwool-drive, 6; Briggs & Helliwell, Briggs-place, 3; B. Swailes, Thorn-lane, 8; A. W. Cooke, Florida-rd., 6.

Bradford.—A £60,000 scheme for building of 224 houses in Whetley-lane, been approved by Corporation Estimates Sub-Committee.

Brodsworth (Yorks).—Extensions, estimated to cost £2,000, with extra accommodation for 400 persons, are to be carried out at Welfare Hall.

Bromley.—T.C. passed plans:—17 houses, Granville-rd., J. Midmer; 10 houses, Godwin-rd., J. M. Colvin; 7 shops with flats over, Sherman-rd., A. Frampton; 4 houses, Fashoda-rd., G. H. Skinner.

Buckinghamshire.—E.C. agreed that the County Works Committee be asked to recommend to County Finance Committee that £1,684 be raised for building new Council schools at Farnham, and £6,859 for new school at Halton.

Cardiff.—Finance Committee agreed to scheme of Tramways Committee to centralise garages and repair shops at Roath Power Station, at £64,000.—An alternative scheme for prevention of future flooding at Ely, which will involve an expenditure of £12,000, been approved. Scheme by City Engineer, G. H. Whittaker.

Chesterfield.—E.C. are to put in hand building schemes to provide further accommodation:—(1) junior school at Boythorpe; (2) additional classrooms at Newbold Moor; (3) practical block at Peter Webster School, Whittington Moor; (4) practical workrooms at Violet Markham School, Highfield-lane.

Chichester.—Council approved plans:—House in Longford-rd., for H. Hammond; 10 houses in Wellington-rd., for Southdown Estate Co.—Subject to approval of Joint Burial Board, a small public convenience is to be erected in cemetery ground, fronting Hawthorn-rd., at £250.

Coventry.—General Works Committee of City Council recommends section of scheme for improvement of Lythall's-lane be proceeded with at £20,939, and that scheme for improvement of Willenhall bridge and a length of main London road, be approved, at £2,229.

Coventry.—C.B. recommend that section of scheme for improvement of Lythall's-lane be proceeded with at £20,939.—Two sites are to be acquired for housing purposes at £9,820 and £1,545.—Certain sewers are to be laid for drainage of the Allesley and Coundon areas at £19,080.

Dawlish.—The £1,000 scheme for extension of Cottage Hospital has been outlined at a public meeting.

Dewsbury.—Sanction been received from M.H. for borrowing of £2,600 for extensions to covered market. Cloth Hall site is to be acquired for extra market accommodation.

Doncaster.—A. Brocklehurst & Co., F.R.I.B.A., architects, 10, Norfolk-st., preparing plans for erection new Wesleyan Chapel in Aldergrove, Balby, for Wesleyan Authorities. The scheme is estimated to cost £10,000.—Empsall, Clarkson & Clarke, L.R.I.B.A., architects, Piece Hall-yard, Bradford, preparing plans for Catholic School at Bentley, for Rev. T. F. Bentley, of St. Peter's, Doncaster.

Douglas (I. of M.).—Application of T.C. for widening of Loch Promenade, at £78,000, been approved.

Dukinfield.—Members of Old Chapel School raising funds for extension of burial ground and for improvements to day and Sunday schools, estimated to cost £2,000.

Durham.—Rev. Leo Pickering, of St. Phillip's, Dunston-on-Tyne, is proposing to erect school for 540 scholars. Plans by A. Harrison, 69, High-st., Stockton-on-Tees.

Exeter.—City Council are to put into operation that portion of West Quarter improvement scheme bounded by Preston-st., King-st., and Rack-st. The estimated cost is approximately £6,000, including £1,953 for the acquisition of land, £2,700 for the erection of six new buildings on the area, and £1,290 for the erection of buildings and the acquisition of sites elsewhere.

Exeter.—Governors of Royal Devon and Exeter Hospital are to sanction £4,500 on structural alterations in connection with provision of new electrical plant, etc.

Halifax.—Licensing Justices approved plans for building in Alexandra-st. Architects, Clement, Williams & Sons, L.R.I.B.A., Permanent-chambers, Commercial-st.

Harrogate.—Committee of Wayside Gardens Sports Club decided to proceed with erection of new building. Plans by J. T. Pickard, Wheaton House, Wayside-crescent.

Hatfield.—R.D.C. decided to erect 12 additional houses.

Hayes.—U.D.C. passed plans:—Two pairs of semi-detached houses, at Little-rd., for C. J. A. Mead.

Huddersfield.—Tenders being invited for erection of 103 houses on Leeds-rd. site.—Site is to be acquired for erection of new library and art gallery. In connection with Corporation's diamond jubilee celebrations, provision is to be made for erection of 20 cottage houses, at £12,000.

Ilford.—T.C. passed plans:—A. P. Griggs, 4 houses and garage, 2-8, Canterbury-av.; A. Smith & Sons, 19 houses and 6 garages, 33-49 and 34-52, Glenwood-gardens; C. J. Dawson, Son & Allardyce, alterations and additions to Ilford Conservative Club, Parsonage House, High-rd.

Kidderminster.—T.C. decided to erect 18 houses on Marlpool-place site, at £7,600.

Leeds.—Plans been approved for adaptation of Leeds Blind School in Albion-st. for a motor showroom. Architects, Kirk & Tomlinson, L. & L.R.I.B.A., 63, Albion-st.

Leicester.—Two acres adjacent to the Hugglescote School are to be bought for erection of a practical instruction centre. The site for Narborough Council School is to be bought from Mr. T. Cutter.

Leyton.—Squash rackets court is being erected at Eton Boys' Club, The Wilderness, by G. H. Carter, Ltd., of Clissold Works, 57-69, Green-lanes, N.16. Architects, Adshead & Ramsey, FF.R.I.B.A.

London (City).—Corporation recommend that columbarian be provided at City of London cemetery, and that portion of existing catacombs be altered and adapted for purpose, at £1,200.

London (City).—L.C.C. sanction erection of additional story to 5, Sun-court, Golden-lane, City, as shown, by Storrar & Hunt.

London (Downham).—The Downham Tenants' League asking for erection of a swimming baths on estate.

London (Greenwich).—L.C.C. recommend borrowing by B.C. of £36,465 for housing purposes.

London (Greenwich).—Cost of carrying out painting and cleaning work at Royal-hill School, Greenwich, is £652.

London (Holborn).—L.C.C. recommend £7,900 for housing purposes for B.C.

London (Islington).—L.C.C. passed plans for erection of additions to 39, Brewery-rd., Islington, submitted by Constantine & Vernon, architects, on behalf of Messrs. Kemp.

London (Millbank).—Imperial Chemical Industries, Ltd., forming two squash rackets courts and badminton court in new building at Millbank. G. H. Carter, Ltd., of Clissold Works, 57-69, Green-lanes, N.16, carrying out the work.

London (Paddington).—B.C. recommend that, subject to recommendation of Public Library Committee for extension of library premises in Porchester-rd. being adopted, application be made to L.C.C. for sanction to borrow £8,677, being estimated additional cost for library purposes of development of "The Lodge" site, Porchester-rd.

London (Shoreditch).—L.C.C. approved plans for erection of one story building on land abutting upon Eagle Wharf-rd., Bracklyn-st., and Parr-st., Shoreditch, submitted by Aston Construction Co., Ltd.

London (St. Pancras).—L.C.C. recommend that, subject to consent of M.H., site on Ossulston estate be let to St. Pancras B.C. for erection of transformer sub-station.

Manchester.—J. Clarke & Sons, F. & L.R.I.B.A., architects, 100, King-st., prepared plans for offices and loading way to premises of Robinson Bros., Ltd., 266, Bury Old-rd., Broughton.

Moreton.—J. E. Bladon, architect, 16, Albert-buildings, Preeson's-row, Liverpool, been appointed to prepare plans for erection of chapel and hall off Upton-rd., for Liverpool Baptist Union.

Neston.—Neston and Parkgate Housing Society proposing to erect further 30 houses on Liverpool-rd. estate.

Newcastle-on-Tyne.—Martin's Bank, Ltd., of Liverpool, are proposing to establish branch in Northumberland-st. Plans for alterations being prepared by Newcombe & Newcombe, F. & A.R.I.B.A., architects, 23, Eldon-sq.

Norwich.—City Council are to erect branch library on Earlham housing estate.

Nottingham.—Scheme being prepared for extension of works of John Player & Sons, Ltd.

Oldham.—B.G. proposing to make extensions to Boundary Park Hospital. Plans by C. E. Taylor, Roberts & Bowman, A. & L.R.I.B.A., architects, 10, Clegg-st.—C. T. Taylor, Roberts & Bowman

*See also our List of Contracts, Competitions, etc.

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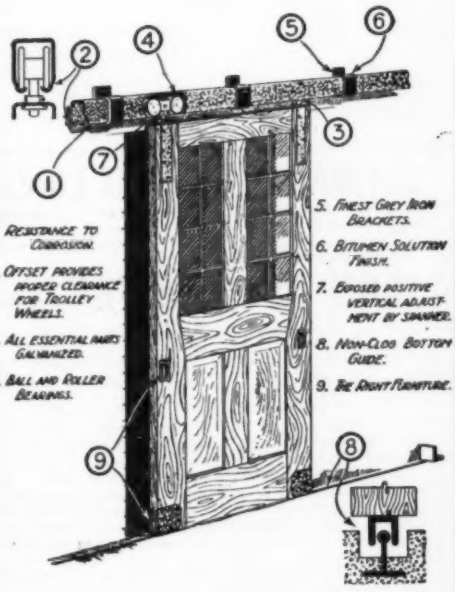
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also architects in connection with structural alterations to mental wards of Poor Law Institution, for B.G.

Penistone.—West Riding E.C. decided to purchase land near junction of Station-st. and Queen-st., Swinton, for proposed new middle school.—It was also decided to proceed with extensions scheme at Penistone Grammar School, at £4,100.

Preston.—C.B. passed plans:—W. E. Trent, for Provincial Cinema Theatres, Ltd., additions, New Victoria Cinema, Church-st.; W. Mercer, for R. Mercer, houses, shop and garage, St. Stephen's-rd.

Prescot.—Lancashire C.C. is to be asked to sanction application for loan, £7,381, for extensions of grammar school.

Portsmouth.—T.C. passed plans:—C. M. Searley, 10 houses, Torringdon-rd.; Weaver Bros., 12 houses and 1 shop, Torringdon-rd.; S. Brittan, 28 houses, Gatcombe-av.; H. E. Pitt, 4 houses, Pervin-rd.; P. T. Price, 2 houses, St. Matthews-rd.; H. Dye, 2 houses, Torringdon-rd.; McCarthy Bros., 27 houses, 5 and 18 roads off Hayling-av.

Poulton-le-Fylde.—Poulton Spiritualist Society negotiating for site in Chapel-st. for erection of church.

Rochdale.—Members of St. Martin's Church, Castleton, raising funds for organ and church and school improvements, which is estimated to cost £2,500.

Romsey.—M.H. sanctioned erection of 14 more houses by T.C.—Plans passed:—F. J. Newell, 4 bungalows, Winchester-rd.

Rotherham.—Approximately 7½ acres of land in Badsley Moor-lane is to be bought for £1,500 for development of the Herringthorpe housing scheme, for C.B.—Electricity Committee recommend that sanction be obtained to borrow £15,000 to cover cost of proposed pumping scheme of condensing water in connection with electricity work.

Salford.—Rev. J. J. Welsh, of Church of Our Lady of Mount Carmel, Oldfield, is proposing to erect new school for senior children on plot of land in neighbourhood of present school. Plans by W. Ellis, F.M.S.A., architect, 49, Deansgate, Manchester.

Scarborough.—T.C. approved plans submitted by Improvements Committee showing proposed erection of covered seats or shelter in South Cliff Gardens near Clock Tower. It is to cost £1,400.—Further works of improvement are to be carried out to the Prince of Wales Terrace Public-gardens, at £650.

Scarborough.—T.C. propose to erect shelter near Clock Tower, at £1,400, and shelter in Prince of Wales Terrace gardens, at £650.

Sheffield.—Hadfield & Cawkwell, F. & A.R.I.B.A., 19, St. James'-st., are architects for erection of proposed Earl Haig Memorial House, which is to be erected on site at Norton.

Shipley.—P. Turner, A.R.I.B.A., architect, 49, Bank-st., Bradford, preparing plans for warehouse premises at Baildon, for Woolcombers, Ltd., Hustlergate, Bradford.

Smethwick.—Housing Committee reported receipt of sanction from M.H. to erection by direct labour of an additional 120 houses on Old Chapel estate.

Solihull.—The Rector of Solihull (the Rev. C. O. R. Wormald) has been informed by trustees of the Manor estate, that in arranging for the planning of new roads to provide for the development of Solihull they have reserved a site for erection of church.

South Shields.—T.C. passed plans:—H. Hill, for G. Lawson, proposed 45 garages, situated in Palatine and Winston-sts.; F. W. Newby, for Wm. Armstrong & Co., pulling down and rebuilding of Brunswick Hotel, Brunswick-st., Laygate.

Staines.—U.D.C. received M.H. sanction to purchase land in Woodthorpe-rd., Ashford, from A. Seth Smith, and the borrowing of £450 in connection with purchase; also sanction acceptance of tender of Blackwell Meyer for erection of 14 houses, at £4,879, and the borrowing by Council of £5,000 in connection with the erection.—Plans passed:—4 cottages, High-st., Cranford, trustees Cranford Cottage Houses; 4 cottages, Sipson-rd., Sipson, E. V. Harvey.

Stalybridge.—Corporation propose to erect 42 houses off Huddersfield-rd. and 38 houses at end of Ruckton Vale-rd., at Heyrod.

Staveley.—Parochial Church Council have decided to provide the Parish Church with a church hall.

Tottenham.—Engineer to U.D.C. to prepare plan and estimate of cost of providing on land in front of Coombes Croft House, a convenience for both sexes.

Twickenham.—Plans for development of Chudleigh estate, Whitton-rd., by erection of 71 houses and 3 lock-up garages, been approved by T.C. Architects are Brewer, Smith & Brewer, acting for R. E. Bennett, Ltd.

Wakefield.—Application by West Riding C.C. for consent of M.H. to borrowing of £70,467, for erection of new Registry of Deeds, was the subject of an inquiry by M.H.

Warrington.—Montague Burton, Ltd., tailors, Leeds, having plans prepared for rebuilding of premises in Sankey-st. Architect, H. Wilson, 81, North-lane, Roundhay, Leeds.

Westmorland.—Kirby Stephen District Council decided to build 5 bridges over fords in Tebay and Appleby districts.

Windsor.—Old Windsor Lock House is to be replaced by a new building.

Wood Green.—Plans been passed by U.D.C. for 8 houses in Homecroft-rd. and Norman-av., for H. Seymour Couchman & Sons, for South Bros.

Worston.—Surveyor to Stafford R.D.C. been instructed to prepare plans and estimates for bridge on ferro-concrete piles, also for removal of dangerous bends in road on east side of river.

TRADE NEWS

A New Factory.

In a factory such as the one erected on the Great West-road for Messrs. the Firestone Tyre and Rubber Co. (1922), Ltd., the industrial architect was given a chance to erect a building combining all the latest developments which have taken place since manufacturing buildings have become structures of architectural value. Facing the Great West-road is the elevation of the office block, in the centre of which is the main entrance to the works. This elevation is an example of concrete construction enriched by the use of coloured faience work which lends itself to inexpensive and expeditious construction, at the same time preserving a type of architecture which is unique. It does not borrow from tradition, but is the outcome of the most serviceable way in which to express the industry behind it, and relies more upon its proportion than for expensive embellishment. The actual concrete finish has been improved by altering the constituents of the concrete mix, and gives, relative to the concrete used in the factory itself, a very white appearance.

One of the main considerations in the designing of this factory has been for the welfare of the operatives, and throughout the factory great care has been taken to provide the correct amount of light and the proper distribution of ventilators, so that the workers may suffer not only the minimum fatigue but also that they may give their maximum output. Connecting all the many departments and running on the central axis, with the clock on the front elevation and the chimney at the rear of the factory, is a large service basement, a feature essential in all modern factories of this type. In this are housed the innumerable pipes necessary for manufacture.

For a manufacture of this kind the site is admirable, possessing features which are essential to the running of a tyre factory. The large railway sidings, the adjacent canal and the new arterial road provide for excellent transportation. The architects were Messrs. Wallis, Gilbert & Partners. The contract was carried out by Sir Robert MacAlpine & Co., for whom the steelwork was erected by Banister, Walton & Co.

Tubular Electric Heating.

From Messrs. Young, Osmond & Young, Ltd., comes a novelty folder descriptive of their "Unity" system of tubular electric heating. Advantages claimed are: Ease of control; cleanliness; low running costs; absence of fire risks; and low cost of upkeep. We gather that with this system the problem of levels and circulations no longer exists. The separate heating units can easily be installed completely hidden in the decoration of the skirtings in recesses on staircases, landings, corridors, halls and passages. Where down draughts may be experienced, heaters can be arranged in the decorations above windows. The element is totally enclosed in a 2-in. diameter metal tube, and as the surface temperature never exceeds 180 deg. F., risks from fire are eliminated. Full details are obtainable from 47, Victoria-street, S.W.1.

ESTIMATING ON RIGHT LINES

Everyone whose business it is to quote for building work should master the principles upon which estimating is based. These principles are clearly explained and illustrated in

'HOW TO ESTIMATE'

by J. T. REA,

a unique and invaluable work which is not excelled in thoroughness or in scope by any similar book known.

Fourth edition (now ready). 540 pages. Price 15s. net (by post 15s. 9d.). Containing thousands of prices and hundreds of examples of analysis, showing how a builder can make up rates for himself. In view of the difficulty of fixing standard prices under present conditions, the author has included an important series of Adaptation Tables and Percentages *which show how rates may be adjusted to meet variations at any time.*

Before purchasing any other book on this vitally important subject, you are invited to inspect this—the standard work which is in use by over 30,000 builders.

A Copy will be sent by return, and your Remittance refunded if the Book does : : not satisfy your requirements : :

B. T. BATSFORD, LTD.
Publishers, 94 High Holborn, London, W.C.

The Cenotaph.

It is interesting to recall that the present Cenotaph in Whitehall is not the original. When the 1919 Peace Celebrations approached, the question of a suitable ceremonial was raised, and when the Whitehall site was finally selected for the commemorative ceremony, only a very brief period remained for the building of a memorial. Sir Edwin Lutyens' design was completed and approved, but only five days were left for the construction of the Cenotaph. Yet in this short period it was cast in fibrous plaster and constructed on the site by Messrs. G. Jackson and Sons, Ltd. The dignified simplicity of that first Cenotaph so impressed the mind of the nation that before the first anniversary of the Armistice it was duplicated in stone, a permanent memorial to a million British dead.

Domestic Water Boilers.

Details are to hand of two new steel domestic hot-water boilers, "Rondo" and "Juno." Both are designed to burn anthracite, or coke and household refuse. The "Rondo" is a small cylindrical boiler and provides a close or open fire and shaking grate. The boiler is easily cleaned and the hot-water connections are 1¼ in. and fitted at the back. The "Juno" is squared and is designed for fixing in the chimney breast or any convenient recess. Here, also, 1¼ in. hot-water connections are fitted. Smoke outlets and dampers are provided in each case. The manufacturers are Messrs. R. Jenkins & Co., Ltd., of Rotherham, from whom full details are available.

Lighting Fixtures.

We have received from Messrs. Best & Lloyd, Ltd., of Cambray Works, Handsworth, Birmingham, a booklet giving details of the lighting fixtures at the new Royal Horticultural Hall—illustrated in our issue of October 19—for which they were responsible, under the direction of the architects, Messrs. Easton & Robertson, FF.R.I.B.A. The final design of the electrolier for the main portion of the exhibition hall comprises three holophane reflectors, surrounded by skirting to avoid glare. Above are glass panels which allow some of the light to pass through, and, by lighting the roof, avoid the apparently dead black background generally associated with direct lighting of this sort. The side panels are decorated with a geometrical pattern which is dimly illuminated from within. Below are sliding panels of slightly etched glass. We learn that the fittings have given every satisfaction. Architects interested should write for information.

Boiler and Economiser Settings.

From Messrs. H. & T. Danks (Netherton), Ltd., comes an illustrated folder which covers in convenient form all the products of the firm, including those of the Building Department, who specialise in chimneys, boilers and economiser settings and boiler houses. Messrs. Danks—who are contractors to the Admiralty, War Office and other Government Departments—will gladly forward this folder upon application to Netherton, Dudley, Worcs.

Floor Clips.

We learn that "Bull Dog" floor clips are specified for use in the new ward block and new nurses' home, King Edward VII. Hospital, Windsor. The architects are Messrs. Edgington & Spink. Redalon, Ltd., of Regent House, Regent-street, W., are the manufacturers of these clips.

PRICES CURRENT OF MATERIALS.*

Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry.

BRICKS, &c.

Per 1,000 Alongside, in River Thames up to London Bridge.

	£ s. d.
Best Stocks	4 5 6
Second Hard Stocks	3 19 6

Per 1,000. Delivered at London Goods Stations.

	£ s. d.		£ s. d.
Flettons, at King's Cross	2 12 3	Best Blue Pressed Staffs	9 5 0
Do. grooved for Plaster	2 14 3	Do. Bullnose	9 15 0
Do., Bullnose	3 7 3	Blue Wire Cuts	7 5 0

Best Stourbridge Fire Brick :—
2½ in. ..... 8 11 0 3 in. 10 3 0

GLAZED BRICKS—

Best White Ivory, and Salt Glazed Stretchers	1 0 0	D'ble Str'tch'rs	29 10 0
Headers	20 10 0	D'ble Headers	26 10 0
Quoins, Bullnose and 4½ in. Flats	27 10 0	One Side and two Ends	30 10 0
		Two Sides and one End	31 10 0
		Splays, and Squints	28 0 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours. Hard Glaze, £5 10s. extra over white.

BREEZE CONCRETE SLABS.

Delivered London

	s. d.		s. d.
2 in. per yd. super.	1 11	3 in per yd. super	2 9
2½ in. ,, ,,	2 4	4 in. ,, ,,	3 6

	s. d.	
Thames Ballast	9 9 per yd.	delivered 2 miles radius Paddington.
Pit Sand	12 0 ,, ,,	
Thames Sand	12 6 ,, ,,	
Best Washed Sand	12 6 ,, ,,	
¾ in. Shingle for Ferro-Concrete	12 0 ,, ,,	
¾ in.	12 6 ,, ,,	
¾ in. Broken Brick	11 6 ,, ,,	
Pan Breeze	8 0 ,, ,,	

Per ton delivered in London area in full van loads.

Best Portland Cement. British.
Standard Specification. Test £2 6 0 to £2 8 0
30s. alongside at Vauxhall in 80-ton lots.

Ferrocrete per ton extra on above	0 7 6
Super Cement (Waterproof)	3 16 0
Roman Cement	8 15 0
Parian Cement	5 15 0
Keene's Cement, White	5 15 0
,, ,, Pink	5 10 0
Plaster, Coarse, Pink	3 0 0
,, ,, White	3 12 6
,, Fine	5 12 0
Sirapite, Coarse	3 9 0
,, Finish	3 17 0
Grey Stone Lime	2 10 9
Chalk Lime	2 10 9
Best Ground Blue Lias Lime	1 17 6
Hair per cwt	2 2 6
Granite Chippings	1 12 0

NOTE.—Sacks are charged 1s. 9d. each and credited 1s. 6d. if returned in good condition within three months carr. pd.
Stourbridge Fireclay in s'cks 37s. 0d. per ton at rly. dp.

STONE.

BATH STONE.—Delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube ..... s. d. 2 10

BERR STONE—RANDOM BLOCK—
Free on rail at Seaton Station per ft. cube 2 3
Delivered free on rail Nine Elms, S.R. per ft. cube 3 1½
Selected approximate size one way, 1d. per cubic foot extra; selected approximately three sizes or for special work, 3d. per cubic foot extra.

PORTLAND STONE.—
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, S. Rly., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube 4 4½
Do. do. delivered on road wagons at above stations, per ft. cube 4 5½
White basebed, 3d. per ft. cube extra.

NOTE.—1d. per ft. cube extra for every foot over 20 ft. *average*, and ½d. beyond 30 ft.

HOPTON-WOOD STONE.—
Delivered at any Goods Station, London. s. d.
Random blocks from 10 ft. and over P. ft. cb. 14 0
Sawn two sides ,, 22 6
Sawn three or four sides ,, 27 6

YORK STONE, BLUE—*Robin Hood Quality.*
Delivered at any Goods Station, London.
6 in. sawn two sides landings to sizes (under 30 ft. super) ..... Per ft. super 5 6
6 in. rubbed two sides, ditto ..... ,, 6 0
3 in. sawn two sides slabs (random sizes) ,, 2 3½
2 in. to 2½ in. sawn one side slabs (random sizes) ..... ,, 1 6½
1½ in. to 2 in. ditto, ditto ..... ,, 1 3½

HARD YORK—
Delivered at any Goods Station, London.
Scappled random blocks ..... Per ft. cube 6 3
6 in. sawn two sides landing to sizes (under 40 ft. super) ..... Per ft. super 5 1½
6 in. rubbed two sides, ditto ..... ,, 6 1½
4 in. sawn two sides slabs (random sizes) ,, 2 1½
3 in. ditto ditto ,, 2 10
2 in. self-faced random flags ..... Per yd. super 8 8

CAST STONE.

Delivered in London area in full van loads, per ft. cube: Plain, 8s. 6d.; Moulded, 9s. 6d.; Cills, 10s. 0d.

WOOD.

GOOD BUILDING DEAL.

Inches.	per stan.	Inches.	per stan.
4 × 11	£30 0	3 × 6	£21 0
4 × 9	26 0	3 × 11	25 0
4 × 8	25 0	2 × 11	26 0
4 × 7	23 0	3 × 9	24 0
3 × 8	22 0	2½ × 9	24 0
3 × 7	22 0	3 × 4½	21 0
2½ × 7	21 0	3 × 4	21 0

PLANED BOARDS.

1 × 11	£30 0	1 × 9	£28 0

PLAIN EDGE FLOORING

Inches.	per sq.	Inches.	per sq.
⅜	18/-	1¼	30/-
½	21/-	1½	34/-
1	24/-		

TONGUED AND GROOVED FLOORING

Inches.	per sq.	Inches.	per sq.
1	24/-	⅜	16/6
1¼	30/-	½	19/-
1½	34/-	1	24/-
Ins. BATTENS.	s. d.	SAWN LATHS.	s. d.
¾ × 2 ..... per 100 ft.	2 6	Per bundle	2 6

1" AND UP THICK.

	£ s. d.	£ s. d.
Dry Austrian Wainscot, per ft. cube	0 16 0	to 0 18 0
Dry American and/or Japanese Figured Oak, ft. cube	0 14 0	to 0 15 0
Dry American and/or Japanese Plain Oak, ft. cube	0 10 0	to 0 13 0
Dry sq. edged Honduras Mahogany, ft. cube	0 15 0	to 0 18 0
Dry Log cut Honduras Mahogany, ft. cube	0 16 0	to 1 1 0
Dry Cuba Mahogany, ft. cube	1 1 0	to 1 10 0
Dry Teak, ft. cube	0 13 0	to 0 15 0
Dry American Whitewood, ft. cube	0 10 0	to 0 14 0
Best Scotch Glue, per cwt.	4 10 0	to —
Liquid Glue, per cwt.	4 7 0	to 5 10 0

SLATES.

First quality slates from Bangor or Portmadoc carriage paid in full truck loads to London Rate Station. Per 1,000.

	£ s. d.		£ s. d.
24 by 12	32 18 4	18 by 10	18 12 11
22 by 12	29 17 11	18 by 9	16 9 2
22 by 11	27 14 2	16 by 10	15 12 6
20 by 12	26 5 0	16 by 8	12 3 9
20 by 10	22 10 0		

TILES.

Delivered at London rate stations in full truckloads of not less than 6 tons. Per 1,000. f.o.r. London.

Best machine-made tiles from Broseley or Staffordshire district		5 7 6
ditto hand-made ditto		5 17 6
Ornamental ditto		6 2 6
Hip and valley tiles (per dozen)	Hand-made	0 9 6
	Machine-made	0 9 0

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION, PER TON—

	£ s. d.
R.S. Joists, cut and fitted	12 10 0
Plain Compound Girders	14 10 0
Stanchions	16 10 0
,, in Roof Work	19 10 0

MILD STEEL ROUNDS.—To London Station, per ton

Diameter.	£ s. d.	Diameter.	£ s. d.
½ in.	12 0 0	⅝ in. to ½ in.	10 15 0
⅝ in.	11 0 0	⅝ in. to 2⅞ in.	10 10 0

WROUGHT-IRON TUBES AND FITTINGS—
(Discount off List for lot of not less than £7 net value delivered direct from Works, 2½ per cent. less above gross discounts, carriage forward, if sent from London Stocks.)

	Tubes. Wrought Mild Steel.	Tubes. Genuine Staffs. Iron.	Fittings. ½ in. and under.	Fittings. Over ½ in.	Flanges. ½ in. and under.	Flanges. Over ½ in.
	%	%	%	%	%	%
Gas	67½	50	42½	45	52½	55
Water	63½	46½	37½	40	47½	50
Steam	60	42½	32½	35	42½	45
Galv. gas	55	37½	32½	35	42½	45
Galv. water	50	32½	27½	30	37½	40
Galv. steam	45	27½	22½	25	32½	35

C.I.—HALF-ROUND GUTTERS—London Prices ex Works

Per yd. in 6 ft. lengths.	Gutters.	Angles and Nozzles.	Stop Ends.
3 in.	1/3½	11½d.	3½d.
3½ in.	1/4½	1/1½	3½d.
4 in.	1/6	1/3	3½d.
4½ in.	1/7½	1/4½	4½d.
5 in.	1/10½	1/6½	5½d.
O.G. GUTTERS.			
3 in.	1/8	1/4½	3½d.
3½ in.	1/8	1/4½	3½d.
4 in.	1/9½	1/4½	3½d.
4½ in.	1/11½	1/7½	4½d.
5 in.	2/4½	1/10½	5½d.

RAIN-WATER PIPES, &c.

Per yd. in 6 ft. Pipe.		Bends, stock angles.	Branches, stock angles.
2 in. plain	1/10½	1/3	1/9½
2½ in. ,,	2/0½	1/4½	2/1½
3 in. ,,	2/6	1/9	2/7½
3½ in. ,,	2/11½	2/0½	3/0½
4 in. ,,	3/5	2/6½	3/8½

L.C.C. COATED SOIL PIPES—London Prices ex Works.

	Pipe.	Bends, stock angles.	Branches, stock angles.
	s. d.	s. d.	s. d.
2 in. per yd. in 6 fts. plain	3 3	2 4½	2 10
2½ in. ,,	3 9	2 7½	3 7
3 in. ,,	4 6	2 10	4 2½
3½ in. ,,	4 11½	3 7	4 11½
4 in. ,,	5 5½	4 0½	5 9

L.C.C. COATED DRAIN PIPES—London Price ex Works

	Pipe.	Bends, stock angles.	Branches, stock angles.
	s. d.	s. d.	s. d.
3 in. per yd. in 9ft. lengths	4 4	5 1	8 0½
4 in. ,, ,,	4 10	5 8	10 0
5 in. ,, ,,	6 6	10 10	17 1
6 in. ,, ,,	6 8	13 2	21 9

Gasken for jointing, 38/6 per cwt.

	Per ton in London. £ s. d.		£ s. d.
IRON—			
Common bars	13 0 0	to	14 10 0
Staffordshire Crown Bars—Good merchant quality	14 5 0	to	15 15 0
Staffordshire Marked Bars	16 5 0	...	17 5 0
Mild Steel Bars	10 0 0	...	11 0 0
Steel Bars, Ferro-Concrete quality, basis price	10 0 0	...	11 0 0
Hoop iron, basis price	12 0 0	...	13 0 0
,, Galvanised	27 0 0	...	28 0 0
Soft Steel Sheets, Black—			
Ordinary sizes, to 20 g.	13 5 0	...	14 5 0
,, ,, ,, 24 g.	14 5 0	...	15 5 0
,, ,, ,, 26 g.	16 5 0	...	17 5 0
Sheets Flat Best Soft Steel, C.R. and C.A. quality—			
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	15 10 0	...	16 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 22 g. and 24 g.	16 10 0	...	17 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 26 g.	18 10 0	...	20 10 0
No. 1 quality £4 per ton extra.			
Flat and Galvanised Corrugated Sheets—			
Ordinary sizes, 6 ft. to 9 ft. to 20 g.	18 0 0	...	19 0 0
Ordinary sizes, 6 ft. to 9 ft. to 22 g. and 24 g.	18 10 0	...	19 10 0
Ordinary sizes, 6 ft. to 9 ft. to 26 g.	21 10 0	...	22 10 0
Sheets Galvanised Flat, Best quality—			
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	22 0 0	...	23 0 0
Best Soft Steel Sheets, 22 g. and 24 g.	24 0 0	...	26 0 0
Best Soft Steel Sheets, 26 g.	25 10 0	...	26 10 0
Cut Nails, 3 in. to 6 in.	18 ,, 0		

(Under 3 in. usual trade extras.)

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

LEAD, &c.

(Delivered in London.)	£ s. d.
LEAD—Sheet, English, 4 lb. and up	30 0 0
Pipe in coils	30 10 0
Soil pipe	33 10 0
Compo pipe	34 10 0

OTE.—Country delivery, 20s. per ton extra; lots under 3 cwt. 3s. per cwt. extra, and over 3 cwt. and under 5 cwt., 1s. 6d. per cwt. extra. Cut to sizes, 5s. cwt. extra.

Old lead, ex London area, at Mills ..... per ton	20 5 0

COPPER.

		s. d.
Seamless Copper tubes (basis)	per lb.	1 1½
Strong sheet	,,	1 0
Thin	,,	1 1
Copper nails	,,	2 3
Copper wire	,,	2 4

PLUMBERS' BRASS WORK.

Delivered in London.

NEW RIVER PATTERN SCREW DOWN BIB COCKS FOR IRON.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
29/-	45/-	76/-	153/-	246/-	510/- per doz.

NEW RIVER PATTERN SCREW DOWN STOP COCKS AND UNIONS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
41/6	62/-	92/-	174/-	300/-	588/- per doz.

RIVER PATTERN SCREW DOWN MAIN FERRULES.

½ in.	¾ in.	1 in.
39/6	60/-	116/6 per doz.

CAPS AND SCREWS.

1¼ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.
7/6	10/-	14/-	23/-	30/-	42/- per doz.

DOUBLE NUT BOILER SCREWS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
7/8	11/-	17/-	29/-	36/-	63/- per doz.

BRASS SLEEVES.

1½ in.	2 in.	3 in.	3½ in.	4 in.
10/-	12/-	20/-	24/-	31/- per doz.

NEW RIVER PATTERN CROYDON BALL VALVES, S.F.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.
35/-	56/-	98/-	162/-	228/- per doz.

DRAWN LEAD P. & S. TRAPS WITH BRASS CLEANING SCREW.

	1¼ in.	1½ in.	2 in.	3 in.	
8 lbs. P. traps	33/-	41/-	56/-	101/-	per doz.
8 lbs. S. traps	35/-	45/-	66/-	126/-	,,

TIN.—English Ingots, 2/6 per lb. SOLDER.—Plumber's 1/1, Tinmen's 1/4, Blowpipe 1/5 per lb.

PAINTS, &c.

Raw Linseed Oil, in pipes	per gallon	0	2 8
,, ,, ,, in barrels	,,	0	2 10
,, ,, ,, in drums	,,	0	3 0
Boiled ,, ,, in barrels	,,	0	3 0
,, ,, ,, in drums	,,	0	3 3
Turpentine in barrels	,,	0	3 10
,, in drums (10 galls)	,,	0	4 0
Genuine Ground English White Lead, per ton		52	0 0

(In not less than 5-cwt. casks.)
Extra for 1-cwt. kegs over 5-cwt. casks is 5/9 cwt.

* The information given on this page has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

PRICES CURRENT OF MATERIALS (*contd.*)

PAINTS, &c. (*contd.*)

		£	s.	d.
GENUINE WHITE LEAD PAINT. "Father Thames," "Nine Elms," "Park," "Supremus," "St. Paul's," "Morganswyte," "Polacco," "J," Brand, and other best brands (in 14 lb. tins) not less than 5 cwt. lots	per ton delivered	70	10	0
Red Lead, Dry (packages extra) ...	per ton	39	10	0
Best Linseed Oil Putty	per cwt.	0	15	0
Fillcol	,,	0	15	6
Size. XD quality	ftn.	0	3	6

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

	Per ft.		Per ft.
15 oz. fourths ...	2½d.	32 oz. fourths	6½d.
15 ,, thirds ...	3½d.	32 ,, thirds	8½d.
21 ,, fourths ...	3½d.	Obscured Sheet, 15 oz.	3½d.
21 ,, thirds ...	4d.	,, ,, 21 ,,	4½d.
26 ,, fourths ...	3½d.	Fluted 15oz.6½d.,21oz.	9d.
26 ,, thirds ...	6½d.	En'led 15 oz. 4½d., 21 oz.	6d.

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED plate in CRATES OF STOCK SIZES.

	Per ft.
⅛ Rolled plate	4½d.
¼ Rough rolled	5½d.
½ Rough rolled	5½d.
Figured Rolled, Baltic, Oceanic, Arctic Stippolyte, and small and large Flemish White	5½d.
Ditto, tinted	8½d.
Rolled Sheet	4½d.
White Rolled Cathedral	4½d.
Tinted do.	6½d.

Cast plate is same price as rough rolled.

VARNISHES, &c.

		Per Gallon £	s.	d.
Oak Varnish	Outside	0	14	0
Fine ditto	ditto	0	16	0
Fine Copal	ditto	0	18	0
Pale Copal	ditto	1	0	0
Pale Copal Carriage	ditto	1	4	0
Best ditto	ditto	1	12	0
Floor Varnish	Inside	0	18	0
Fine Pale Paper	ditto	0	18	0
Fine Copal Cabinet	ditto	1	2	6
Fine Copal Flatting	ditto	1	0	6
Hard Drying Oak	ditto	0	18	0
Fine Hard Drying Oak	ditto	0	19	0
Fine Copal Varnish	ditto	1	0	0
Pale ditto	ditto	1	2	0
Best ditto	ditto	1	12	0
Best Japan Gold Size		0	12	6
Best Black Japan		0	10	6
Oak and Mahogany Stain (water)		0	12	0
Brunswick Black		0	7	6
Berlin Black		0	14	0
Knotting (patent)		1	5	0
French and Brush Polish		0	17	0
Liquid Dryers in Terebine		0	9	0
Cuirass Black Enamel		0	7	0

THE SCOTTISH BUILDER

NEW BUILDINGS

Linlithgow.—CHURCH.—The Presbytery of Linlithgow has approved of plans for a proposed church hall for the congregation of Kerse Parish Church, Grangemouth. The proposed building will accommodate 500 people. The estimated cost of the scheme is £2,000.

Alloa.—HOUSING.—The Alloa Dean of Guild Court has passed plans for 106 houses at Tullibody-road by Alloa Town Council, at a cost of £39,000. The houses will consist of six four-room, 68 three-room, and 32 two-room dwellings.

Barrhead. — HOUSING. — The Barrhead Town Council have embarked on a scheme to erect 222 houses in the Arthurlee estate—which they purchased some time ago for over £5,000—and the cost of the scheme is estimated at £96,740. The scheme will consist of 56 houses of four apartments, 114 of three apartments, and 52 of two apartments.

BUILDINGS IN EDINBURGH

Bailie Hay presided at the annual meeting of the Guildry of Edinburgh held in the City Chambers. Reviewing the work of the year, Lord Dean of Guild Bruce said that the period in question had seen a decided turn in the tide of increases which had been flowing ever since the end of the war. There was actually a slight increase in the total number of warrants granted by the Dean of Guild Court, but the value of the work had dropped by the not inconsiderable amount of half a million sterling. The warrants granted numbered 1,724, and the value was £2,016,740—a decrease of £508,136 compared with 1927. The decrease of half a million sterling was due almost certainly to the fact that comparatively few new houses had been put forward by the Corporation during the past year.

A feature of the year's work had been the large number of proposed new buildings for public amusement. The building trade was naturally willing to accept work of any kind, but the outlook for the city as a whole would be better were the position regarding buildings for amusement and buildings for business purposes reversed.

If the building industry, which was one of the sheltered industries, would tackle the question of their wages, which, he considered, were out of all proportion to the competitive industries, they would be doing a great service to the country, and would perhaps help themselves to get contracts for extensions to factories in the industrial world, which, as far as the Dean of Guild Court was concerned, had been few in the past year.

HOUSING PROGRESS

The following figures show the progress that has been made in State-aided housing schemes in Scotland to September 30, 1928 :—

	Completed.	Under Construction.
1919 Act	25,129	—
1919 Act (by public utility societies)	421	—
Private subsidy schemes (1919 Additional Powers Act)	2,324	—
Slum clearance schemes ...	8,038	2,715
1923 Act:—		
By local authorities ...	4,006	44
By private enterprise ...	13,391	2,712
By public utility societies	80	—
1924 Act:—		
By local authorities ...	26,327	12,870
By private enterprise ...	627	664
By public utility societies	59	68
Demonstration houses ...	17	—
Steel houses erected on behalf of Government by Scottish National Housing Company ...	2,552	—
	82,971	19,073

THREE YEAR-BOOKS

WE have received from the Swedish Consulate-General, at 32, High Holborn, W.C.1, a copy of the "Sweden Year-Book, 1928," which—printed in English—contains much interestingly set forth information upon Swedish affairs. Especially valuable is a well-written treatise on Swedish architecture and architects, of great interest to the English architects in view of the presentation a few years ago of the Royal gold medal to Ragnar Ostberg.

The Electrical Contractors' Year-Book, 1928-29, published by the Electrical Contractors' Association, 15, Surrey-street, W.C.2, is a handbook likely to prove of value to all members of the electrical contracting trades. A full list of members is included in an issue which contains also the following sections of interest: Wiring specifications for architects; notes on apprenticeship training; law for electrical contractors; the text of the various national standardised wages, agreements and working rules and schedule of basic rates for various districts.

The University College of the University of London Calendar for 1928-29 has lately been received—a publication in whose pages will be found a wealth of information of use to all students—architectural, fine arts, and science, besides those taking the humanities and law. The handbook is to be obtained through the University College authorities.

Sewage Disposal Scheme, Ipswich.

Improvements to the drainage and sewage disposal system at Ipswich are proposed at a cost of £171,000.

BUILDING TRADE WAGES IN SCOTLAND.*

THE following are the present rate of wages in the building trade in the principal towns of Scotland. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur.

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers—Masons' ‡ Bricklayers'‡ Plasterers'†
Aberdeen	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	‡1/2½ †1/2½
Airdrie	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	‡1/2½ †1/2½
Alexandria	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	‡1/2½ †1/2½
Arbroath	1/6½	1/6½	1/6½	1/7½	1/6½	1/6½	1/5½	1/1
Ayr	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	1/2½
Bathgate	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/6½	1/2 to 1/3
Blairgowrie	1/7	1/7	1/7	1/7½	1/5	1/7	1/4	10d. to 1/-
Bo'ness	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	‡1/2½ †1/2½
Coatbridge	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	‡1/2½ †1/2½
Dumbarton	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	‡1/2½ †1/2½
Dumfries	1/6½	1/6½	1/6½	1/7½	1/6½	1/6½	1/6½	1/2
Dundee	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	‡1/3 †1/2½
Dunfermline	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/7½	‡1/2½ †1/2½
Edinburgh	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	‡1/3½ †1/2½
Falkirk	1/7½	1/7½	1/7	1/8	1/7	1/7	1/6½	1/2½
Fort William	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/2
Galashiels	1/6½	1/7	1/6½	1/7	1/6½	1/6½	1/7	1/2
Glasgow	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	‡1/2½ †1/2½
Greenock	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/7	1/2½
Hamilton	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	‡1/2½ †1/2
Hawick	1/7	1/7	1/7	1/7-1/7½	1/7	1/7	1/7	1/2½
Helensburgh	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/7	1/2½
Inverness	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/- to 1/2
Kilmarnock	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	1/2½
Kirkcaldy	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	‡1/2½ †1/2½
Kirkwall	1/5	1/5	1/4	1/5	1/5	1/4	1/4	1/-
Lanark	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	‡1/2½ †1/2½
Leith	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	‡1/3½ †1/2½
Motherwell	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	‡1/2½ †1/2½
Perth	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	‡1/2½ †1/2½
Stirling	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/7½	1/2½
Stirlingshire (Eastern District) ...	1/7½	1/9	1/7½	1/8½	1/7½	1/7½	1/8	1/2½
Wishaw	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	‡1/2½ †1/2½

* The information given in this table is copyright. The rates of wages in the various towns in England and Wales are given on page 735.

CURRENT PRICES FOR BUILDING WORK IN LONDON*

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	11	0
Add if in clay	„ „	1	0
Add for every additional depth of 6 ft.	„ „	0	6
Planking and strutting to trenches	per foot super	0	5
Do. to sides of excavation, including shoring	„ „	1	0

CONCRETOR.

Portland cement concrete in foundation 1 to 6	per yard cube	38	0
Add if in underpinning in short lengths	„ „	7	0
Add if in floors 6 in. thick	„ „	3	3
Add if in beams	„ „	3	9
Add if aggregate 1 : 2 : 4	„ „	10	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	„ „	2	6

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	32	0	0
Add if in stocks	„	7	10	0
Add if in Staffordshire blues	„	22	0	0
Add if in Portland cement and sand	„	1	10	0

FACINGS.

Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	0	1¼

POINTING.

Neat flat struck or weathered joint	„ „	0	0	3

ARCHES.

Extra only to the price of ordinary brickwork :—

Fair external in half brick rings	„ „	0	0	10
Axed in stocks	„ „	0	1	9
Rubbed and gauged jointed in putty camber or segmental	„ „	0	6	0

SUNDRIES.

Damp course in double course of slates breaking joint and bedded in Portland cement	„ „	0	1	0
Setting ordinary register grates and stoves	each	1	0	0
Setting kitchener, including forming flues, &c., with all necessary fire bricks	„	4	15	0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard super	4	6
Three-quarter-inch vertical damp course	„ „	9	6
Three-quarter-inch on flats in two thicknesses	„ „	6	3
Angle fillet	per foot run	0	3
Skirting and fillet 6 in. high	„ „	1	2

MASON.

York stone templates fixed	per foot cube	13	0
York stone sills fixed	„ „	22	0
Bath stone and all labour fixed	„ „	10	6
Beer stone and all labour fixed	„ „	15	0
Portland stone fixed	„ „	20	0

SLATER.

Welsh 16 in. × 8 in. 3 in. lap, including nails	per square	72	9
Do. 20 in. × 10 in. Do. Do.	„	80	9
Do. 24 in. × 12 in. Do. Do.	„	90	0

CARPENTER AND JOINER.

Fir framed in plates	per foot cube	5	0
Do. joists	„ „	5	6
Do. roofs, floors and partitions	„ „	6	0
Do. trusses	„ „	8	6

		¾″	1″	1¼″	2″
Deal rough close boarding	per sq.	35/6	40/-	45/-	72/-

Flat centering for concrete floor, including struts or hangers	„	50	0	
Do. to beams	per ft. sup.	0	11	
Centre for arches	„	1	6	
Gutter boards and bearers	„	1	0	

FLOORING.

		¾″	1″	1¼″	1½″
Deal-edges shot	per sq.	—	44/6	53/-	60/6
Do. tongued and grooved	„	—	49/-	57/6	65/-
Do. matchings	„	45/-	51/-	—	—
Moulded skirting, including backings and grounds	per ft. sup.	1/6	1/9	2/-	2/6

SASHES AND FRAMES.

		s.	d.
One-and-a-half moulded sashes or casements	per foot super	1	10
Two Do. Do. Do.	„ „	2	1
Add for fitting and fixing	„ „	0	3
Deal-cased frames with 1 in. inner and outer linings, 1½ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares, double hung, double hung with pulleys, lines and weights; average size	„ „	3	9

DOORS.

		1½″	1¾″	2″
Two-panel square framed	per ft. sup.	2/1	2/4	2/6
Four-panel Do.	„	2/5	2/8	2/11
Two-panel moulded both sides	„	2/8	2/11	3/2
Four-panel Do. Do.	„	2/11	3/2	3/5

CARPENTER AND JOINER—continued.

FRAMES.

			s.	d.
Deal wrot moulded and rebated	per foot cube		14	0

		1″	1¼″	1½″
Plain deal jamb linings framed	per ft. sup.	1/7	1/8	1/11
Deal shelves and bea ers	„	1/4	1/6	1/9
Add if cross-tongued	„	2d.	2d.	2d.

STAIRCASES.

	1″	1¼″	1½″	2″	2½″
Deal treads and risers in and including rough brackets	2/1	2/4	2/9	—	—
Deal strings wrot on both sides and framed	1/8	2/-	2/2	2/8	—

		s.	d.
Housings for steps and risers	each	0	11
Deal balusters, 1 in. × 1¼ in.	per ft. run	0	9
Mahogany handrail : average, 3 in. × 3 in.	„ „	6	0
Add if ramped	„ „	12	0
Add if wreathed	„ „	24	0

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/-
Sash fasteners	11½d.	Mortice locks	4/6
Casement fasteners	1/5	Patent spring hinges and letting into floor and making good	19/-
Casement stays	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	16	3
Plain compound girders	„	19	0
Do. stanchions	„	21	9
In roofwork	„	27	6

RAIN-WATER GOODS.

		3″	4″	5″	6″
Half-round plain rebated joints	ft. run	1/6	1/9	2/-	2/6
Ogee Do. Do.	„	1/9	2/-	2/6	3/3
Rain-water pipes with ears	„	1/9	2/7	—	—
Extra for shoes and bends	each	4/4	5/11	—	—
Do. stopped ends	„	1/11	2/4½	3/7	4/-
Do. nozzles for inlets	„	2/2	2/7	3/10	4/3

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	43	0
Do. Do. in flats	„	42	0
Extra labour and solder in coated cesspools	each	6	9
Welf joint	per ft. run	0	6
Soldered seam	„ „	1	3
Copper nailing	„ „	0	3

		½″	¾″	1″	1½″	2″	4″
Drawn lead waste	per ft. run	1/2	1/9	2/-	3/4	4/-	—
Do. service	„	1/8	2/2	2/7	3/10	—	—
Do. soil	„	—	—	—	—	—	6/9
Bends in lead pipe	each	—	—	—	—	3/3	8/2
Soldered stop ends	„	1/2	1/8	2/1	2/10	3/6	—
Read lead joints	„	11d.	1/-	1/3	1/11	2/4	4/10
Wiped soldered joints	„	2/10	3/6	4/-	4/11	6/6	9/9
Lead traps and cleaning screws	„	—	—	—	14/7	19/6	—
Bib cocks and joints	„	6/4	9/7	15/4	41/-	—	—
Stop cocks and joints	„	15/4	17/2	25/8	64/-	—	—

PLASTERER.

		s.	d.
Render, float and set in lime and hair	per yard sup.	2	6
Do. Do. Sirapite	„ „	2	9
Do. Do. Keen's	„ „	4	0
Add saw lathing	„ „	1	7
Add metal lathing	„ „	2	6
(Not including hangers or runners, etc., for suspended ceilings.)			
Portland cement screed	„ „	2	2
Do. plain face	„ „	3	3
Mouldings in plaster	per 1 girth	0	1½
One-and-a-half granolithic pavings	per yard sup.	5	6

GLAZIER.

		s.	d.
21-oz. sheet plain	per foot sup.	0	8½
26-oz. Do.	„ „	1	0
Obscured sheet	„	1	1
⅛-in. rolled plate	„ „	0	9
¼-in. rough rolled or cast plate	„ „	0	10½
¼-in. wired cast plate	„ „	1	4

PAINTER.

		s.	d.
Preparing and distempering, 2 coats	per yard sup.	0	9
Knotting and priming	„ „	0	7
Plain painting, 1 coat	„ „	0	9
Do. 2 coats	„ „	1	2
Do. 3 coats	„ „	1	9
Do. 4 coats	„ „	2	4
Graining	„ „	2	3
Varnishing twice	„ „	1	9
Sizing	„ „	0	3
Flatting	„ „	0	7
Enamel	„ „	1	1
Wax polishing	per foot sup.	0	6
French polishing	„ „	1	2
Preparing for and hanging paper	per piece, 2/- to 4/-		

* These prices apply to *new buildings only*. They cover superintendence by foreman and carry a profit of 10% on the prime cost without establishment charges. A percentage of 1¼ should be added for Employers' Liability and National Health and Unemployment Acts and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

NEW COMPANIES

THE particulars quoted below have been compiled by Messrs. Jordan & Sons, Ltd., Company Registration Agents, of 116 & 117, Chancery-lane, W.C.2, from the documents available at the Companies' Registry.

HOLME HALL QUARRIES, LTD. (232,997). Registered August 29. Devonshire House, Moorgate, Rotherham. Quarry owners and workers. Nominal capital, £2,000.

RICHARDSON, BUILDER, LTD. (233,266). Registered September 11. Builders, etc. Nominal capital, £100. R. M. Valentine, 38, Carisbrooke-road, E.17.

ROY CORKE, LTD. (233,194). Registered September 7. Rugby-road, Southsea. Builder and contractor. Nominal capital, £5,000.

CONN & KING, LTD. (233,258). Registered September 11. 197, Shirland-road, Paddington, W. Builder and contractor and builders' merchant. Nominal capital, £1,000.

LLANBEDROG QUARRIES, LTD. (233,218). Registered September 8. Quarry masters and stone merchants, etc. Nominal capital, £5,000. S. N. Carvalho, 6, Drapers'-gardens, E.C.

HARRISON'S LIMEWORKS, LTD. (233,212). Registered September 8. Lime merchant, carried on at Flusco, Newbiggin, Pacre, Cumberland. Nominal capital, £25,000.

BUCKINGHAM BRICK AND TILE CO., LTD. (233,175). Registered September 7. 20, Abchurch-lane. E.C.4. Nominal capital, £175,000.

ARTOLME MANUFACTURING CO., LTD. (233,077). Registered September 3. Midland Works, Darnall-road, Sheffield. Paint, colour, varnish, wallpaper and ceiling preparation manufacturers. Nominal capital, £1,500.

LETTS & VERNON, LTD. (233,138). Registered September 5. 18, Bedford-row, W.C.1. Dealer in antiques, curios, furniture and objects d'art, and interior decorator. Nominal capital, £7,000.

ART MARBLES, STONE AND MOSAIC CO., LTD. (233,115). Registered September 4. 12, The Broadway, Westminster, S.W. Nominal capital, £12,600.

SHEPHERDS (MATERIALS), LTD. (233,125). Registered September 4. 5, Chancery-lane, W.C. Manufacturers of and dealers in tar, bitumen, asphalt and macadam, bricks, timber, hardware, and other building requisites, etc. Nominal capital, £3,000.

P. E. WORTHINGTON, LTD. (233,141). Registered September 5. 141, Deane-road, Bolton. Plumbers and sanitary engineers. Nominal capital, £1,500.

THEALE AND GREAT WESTERN SAND AND GRAVEL CO., LTD. (233,146). Registered September 5. Nominal capital, £35,000.

JOHN LANT, LTD. (233,975). Registered October 11. Builders and building contractors, etc. Nominal capital, £5,000. J. Lant, 212, Osborne-road, Newcastle-on-Tyne.

SNOW (BUILDERS), LTD. (234,049). Registered October 13. Builder, building contractor, and repairer of property. 119, Kingstreet, Stretford, Lancs. Nominal capital, £5,000.

RICE & SON, LTD. (234,085). Registered October 15. 15, Stockwell-road, S.W.9. Builders and contractors. Nominal capital, £100,000.

BELL BUILDING CO., LTD. (234,024). Registered October 13. Broad Leys Estate, Staines-road, Ashford, Middlesex. Nominal capital, £100.

CHAPPELL & CO. (BUILDERS), LTD. (234,025). Registered October 13. 11, Pancras-lane, E.C.4. Builders, contractors, etc. Nominal capital, £100.

ALLENHEADS MINING CO., LTD. (234,023). Registered October 13. Quarry masters, mine and factory proprietors, etc. Nominal capital, £300.

L. FOWLER (1928), LTD. (234,006). Registered October 12. Bridgeway House, Hammersmith, W. Builders and contractors, decorators, furnishers, etc. Nominal capital, £2,000.

TENDERS

Communications for insertion under this heading should be addressed to "The Editor," and must reach him not later than Tuesday evening.

* Denotes *accepted*.
† Denotes *provisionally accepted*.
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modifications*.

Abergele.—Branch premises, for Barclays Bank, Ltd. Mr. F. A. Roberts, L.R.I.B.A., architect, Earl-chambers, Mold:—

*W. J. Jones, Penybont, Abergele.

Alderley Edge.—Extension of the Union Club. Mr. A. Pursglove, A.R.I.B.A., architect, 9, Albert-square, Manchester:—

*I. Massey & Sons, Ltd., Alderley Edge.

Aldingbourne.—Water softening plant and storage tower at Aldingbourne Hospital, near Chichester, for the West Sussex C.C. Mr. Haydn P. Roberts, F.R.I.B.A., County Architect, Fernleigh, North-street, Chichester:—

*Paine, Manwaring & Lephard, Ltd., Worthing	£424 18

Aylesbury.—New tramp ward, to accommodate 50 casuals, for the B.G.:—

*Cannon, Green & Co., Aylesbury £7,999

Bardon Mill-on-Tyne.—New parish church on Thorngrafton-road, for the parochial council. Mr. Noel E. Leeson, architect, 25, Collingwood-street, Newcastle-upon-Tyne:—

*C. F. Wilson, Bardon Mill, Northumberland.

Barnet.—Alterations to the Middle Nurses' Home, and erecting an extension thereto to form a new maternity unit at the Wellhouse Hospital, for the Barnet Union. Messrs. A. Saxon Snell & Phillips, F.R.I.B.A., architects, 9, Bentinck-street, Manchester-square, W.1:—

S. E. Moss, Chelmsford	£6,684 17
E. D. Winn & Co., Halkyn-place, S.W.	6,648 0
A. E. Symes & Co., Carpenter's-row, E.15	6,185 0
H. E. Winskell, Barnet	6,160 3
J. & J. Dean, Leyton	6,036 0
W. Silk & Son, Ltd., High-street, E.9	6,021 0
Welwyn Builders, Ltd.	5,846 0
Prestige & Co., Grosvenor-road	5,820 0
Webster & Cannon, Aylesbury	5,778 0
J. Wilmott & Son, Hitchin	5,696 0
*Pettengell & Clark, Letchworth	5,548 6

Bilbrough.—Alterations and repairs, at the head teacher's house, etc., at Council School, for the West Riding E.C. Mr. W. Hague, Education Office, Finkle-street, Selby. Mr. H. Wormald, Education Architect:—

*W. T. Thompson & Co., Sherburn, South Milford.

Blackpool.—Repair work at High House Farm, Staining, for the C.B. Borough Surveyor:—

*J. & R. Fenton (Blackpool), Ltd.

Blackpool.—For (a) re-construction of conveniences in Talbot-square, (b) extension of the conveniences in Wellington-square, and (c) erection of conveniences and cabmen's shelter in Waterloo-road, for the C.B.:—

(a) *Keenan & Yates, Ltd., St. Annes-on-Sea.
(b) *Hogarth & Pollard, Ltd., Blackpool.
(c) *H. H. Vickers & Son, Blackpool.
(Subject to M.H. approval.)

Blackpool.—Two new buildings at Rigby-road depot, one for housing additional fleet of tramcars, and another for use by the electricity mains department, for the C.B.:—

*Harry Peers & Co., Ltd.

Blackpool.—Electrical installation at the Tyldesley Senior Boys' school, for the C.B.:—

*Myles & McCaffery.

Brecon.—Installation of low-pressure hot-water heating system at Colbren, Cynlais (mixed) and Yniscedwyn (infants') Council schools, for the Breconshire E.C. Mr. H. C. C. Strickland, A.R.I.B.A., County Architect:—

Yniscedwyn—	
Hope & Sons, Birmingham	£201 0
Haden & Sons, Trowbridge	198 0
Beaven & Sons, Newport	170 15
Marler, Newport	160 0
E. Perman, Newport	149 19
Saunders & Taylor, Manchester	145 0
Alger & Sons, Newport	127 10
Grant & Maisey, Brecon	125 16
*J. C. Hitt & Sons, Bridgend	115 0
Cynlais—	
Grant & Maisey	554 0
Hope & Sons	553 0
Haden & Sons	546 0
Beaven & Sons	527 0
E. Perman	499 19
Saunders & Taylor	460 0
Marler, Newport	459 0
R. Alger & Sons	422 0
*J. C. Hitt & Sons	415 0
Colbren—	
Hope & Sons	334 10
Beaven & Sons	290 17
Haden & Sons	270 0
Saunders & Taylor	267 10
Alger & Sons	183 0
Marler, Newport	181 0
Grant & Maisey	170 0
*J. C. Hitt & Sons	143 10

Burton-on-Trent.—Confectionery premises, for Messrs. Bird Bros. Mr. L. F. Smith, L.R.I.B.A., architect, Bank-chambers, Corn Market, Derby:—

*T. Lowe & Son, Ltd., Burton-on-Trent.

Bury.—Garages in Fernhill-yard, for the Cleansing Committee:—

*Otto Elton, Bury.

Carshalton.—Remodelling and extension of heating apparatus at the Council offices, The Grove, for the U.D.C. Mr. C. P. Ingram, Estates Manager:—

J. Combe & Son, Ltd., Welwyn Garden City	£365 0
*C. P. Kinnell & Co., London	347 10

Coventry.—Cinema between Spon End-bridge and Hearsall-lane, to accommodate 1,000 persons. Messrs. Hattrell & Wrotley, L.R.I.B.A., architects, 1, Queen's-road:—

*Philpott Bros., Coventry.

Dewsbury.—New casual wards at Staincliffe Institution, for the B.G. Messrs. W. Hanstock & Son, architects, Branch-road, Batley. Quantities by the architects:—

Masons—	
*J. B. Allatt & Sons, Heckmondwike	£3,960 0
Joiners—	
*Samuel Armitage & Sons, Ltd., Dewsbury	1,365 0
Plumbing and Heating—	
*Frank Newsome, Ltd., Dewsbury	1,735 0
Plasterer—	
*Fred Robinson, Gomersal	452 0
Slaters—	
*Geo. Rogerson, Ltd., Morley	607 10
Painters—	
*Brooksbank Bros., Morley	239 5
Electrician—	
*Walter Angus, Dewsbury	289 0

Eastbourne.—For alterations and additions to the casual wards, and hot-water heating installation at the Institution, 123, Church-street, for the B.G.:—

James Bodle, Ltd.	£1,089
Mark Martin & Sons	914
Peerless Dennis & Co., Ltd.	863
*Miller & Selmes, Ltd.	729
A. E. Perry & Sons	701
Hot-water Heating Installation only—	
G. N. Haden & Sons, Ltd.	205

(All of Eastbourne.)

Falmouth.—New hospital. Messrs. Cowell, Drewitt & Wheatly, A.R.I.B.A., architects, Mansion House, Truro. Quantities by Mr. E. J. Read, 19, Basinghall-street, E.C.:—

F. Mitchell, Ltd., Camborne	£15,709 8 0
N. J. Jory & Son, Hayle	15,263 9 8
J. Rapson, Johns, Falmouth	15,089 9 0
E. Thomas, Falmouth	15,071 4 6
W. T. Nicholls, Ltd., Gloucester	14,897 0 0
Wakeham Bros., Ltd., Plymouth	14,590 0 0
*J. H. Lobb, Mevagissey	13,812 0 0
T. R. W. Bray, Truro	13,037 0 0

Fareham.—8 houses on the Bellfield housing site at Titchfield, for the R.D.C. Mr. L. W. Hunt, surveyor, 97, West-street:—

*Humby's, Ltd., Farlington £2,947

Farnworth.—Rebuilding the "Golden Lion" hotel, Gladstone-road, for Messrs. Peter Walker & Son (Warrington & Burton), Ltd. Messrs. Thos. F. Smith & Son, architects, Central-chambers, Fold-street, Bolton:—

*J. Owen.

Slater and Plumber—
*A. Russell.

Painter—
*Strickland.

(All of Bolton.)

Gilesgate.—Alterations to Gilesgate branch, Durham Co-operative Society, Ltd.:—

*Dixon, Elliott Son, Durham.

Godalming.—For Secondary school for the Surrey E.C.:—

*Chapman, Lowry & Puttick, of Haslemere	£43,599

Goole.—Erection and equipment of a public abattoir and cattle market, for the U.D.C. Mr. J. H. Castle, engineer and surveyor:—

Abattoir and cattle market—	
*C. F. Farrow, Doncaster	£3,942
Slaughterhouse and cooling room equipment and fencing and gates—	
*Brook & Crowther, Huddersfield	989
Cattle weighbridge—	
*Avery, Ltd., Hull	450

Guildford.—Tenders accepted in connection with the Bellfields new school, for the T.C.:—

Electric lighting installation—	
*Guildford Corporation Electricity Department	£136 19 9
Asphalting roof—	
*Excel Asphalte Co.	142 18 6
Fencing and iron gates—	
*Bayliss, Jones & Bayliss, Ltd	145 10 0

Hendon.—40 cottages on the Pinner-hill-road site, for the R.D.C.:—

*James & Son	£13,030

Hendon.—New surface water culverts at Uxbridge-road., Hatch End, for the R.D.C.:—
*J. B. Edwards & Co. £5,900

Henley.—Bungalow for the use of the caretaker at Henley Fort school camp, for the Surrey E.C.:—
*G. Hart & Co. £995

Hull.—Steelwork required in connection with the proposed bridge over the Hedon Haven, for the Corporation Housing and Town Planning Committee:—
*S. Butler, Leeds £4,740

Leicester.—Erection of Narborough Temporary Council School, for the Leicestershire E.C.:—
*E. Fox & Co., Leicester £1,569

Leigh-on-Sea.—Public Conveniences, for the Southend C.B. Mr. R. H. Dyer, Borough Engineer:—
*W. J. Cearns, Stratford £1,475

Liverpool.—Conveniences in (*a*) Rice-lane recreation ground, and (*b*) Springfield Park, Knotty Ash, for the T.C. Land Steward and Surveyor:—
(*a*) *R. H. Green, Liverpool.
(*b*) *W. Spencer, Aintree.

Liverpool.—Conversion of store adjoining 28, Myrtle-street, into shop, and rearrangement of sanitary accommodation, for the T.C. Land Steward and Surveyor:—
*C. & G. L. Descer, Ltd., Liverpool.

Liverpool.—For painting (*a*) Mansion House, Bowring-park; (*b*) Mansion House, Woolton Wood estate, and (*c*) Mansion House, Muirhead-avenue gardens, for the T.C. Land Steward and Surveyor:—
(*a*) *F. Gaskin & Son.
(*b*) *T. W. Quarmby & Son.
(*c*) *T. W. Quarmby & Son.
(All of Liverpool.)

Liverpool.—Foundations, etc., to the proposed new temporary school, in Fazakerley Hall estate, Fazakerley, for the T.C.. Mr. Albert D. Jenkins, Land Steward and Surveyor. Quantities by Mr. J. D. Morton:—
*H. Boot & Sons, Ltd., Liverpool.

Liverpool.—Foundations to the proposed new temporary school, in Corinthian-avenue, for the T.C. Mr. Albert D. Jenkins, Land Steward and Surveyor. Quantities by Mr. J. D. Morton:—
*H. Boot & Sons, Ltd., Liverpool.

Liverpool.—Garage in Oldham-street, for Messrs. W. Watson & Co., motor engineers, Renshaw-street, Liverpool:—
*Sims, Son & Cook, Ltd., Nottingham.

Liverpool.—Pointing brickwork at the City Hospital, North, Netherfield-road, and the City Hospital, South, Grafton-street, for the T.C. Land Steward & Surveyor:—
*W. Clarkson, Liverpool.

London.—Alterations to the existing lavatory by the church and the construction of two new conveniences near the chapel and crematorium respectively, at the City of London Cemetery, for the Corporation:—

H. C. Horswill, Ltd.	£1,107 10 0
Falkus Bros., Ltd.	1,105 7 6
G. B. Farrar & Co.	1,015 0 0
Vigor & Co. (Poplar), Ltd.	1,004 10 0
*F. J. Howard	928 11 0

London.—Carrying out works of repair, immediately necessary, to the verandah and lower outer dummy on the riverside at Billingsgate Market, for the City Corporation:—

Thomas & Edge	£210 0
G. Tate & Son	200 5
*John Shelbourne & Co., Ltd.	186 0

London.—Cleaning and painting work at the County Hall, for the L.C.C.:—

John Mowlem & Co., Ltd.	£3,262
Prestige & Co., Ltd.	3,234
Holland & Hannen & Cubitts, Ltd.	3,192
W. H. Gaze & Sons, Ltd.	3,048
Triggs & Co.	2,988
Bovis, Ltd.	2,987
*G. E. Wallis & Sons, Ltd.	2,681
Architect's estimate	3,450

(All of London.)

London.—Erection of a house for the superintendent of Deptford pumping station, for the L.C.C.:—

W. H. Gaze & Sons, Ltd., Kingston	£1,693
George Parker	1,685
W. Mills & Sons (B. & C.), Ltd.	1,655
T. D. Leng	1,632
H. W. Spinks	1,436
W. J. Dixon & Son	1,397
*Harry Groves & Son	1,385
H. & J. Taylor	1,371
Architect's estimate	1,390

(All of London.)

London.—Erection of blocks 2 and 3 of dwellings, to be known as Livingstone House and Speke House, respectively, on Comber estate, Camberwell, for the L.C.C.:—

Joseph Wm. Trudgett, Colchester	£51,509
L. H. & P. Roberts	44,436
Higgs & Hill, Ltd.	42,842
William Moss & Sons, Ltd.	42,128
J. E. Billings & Co., Ltd.	41,599
John Garrett & Son, Ltd.	40,923
Albert Monk	40,550
Rowley Brothers, Ltd.	40,360
Fred & T. Thorne	39,000
A. E. Symes, Ltd.	38,940
A. T. Rowley	38,500
*R. J. Rowley, Ltd.	36,308
Architect's estimate	35,916

(All of London.)

Luton.—Erection of a new school for girls, for the Bedfordshire C.C. Mr. S. C. Parrott, architect, Luton:—

R. Marriott, Rushden	£52,645
Luton Building Co., Luton	51,000
*F. Chandler & Son, Luton	50,000

Maldon.—For (*a*) 24 dwellings in Colchester-road, Heybridge, and (*b*) 6 near the station at Wickham Bishops, for R.D.C. Mr. Wm. Almond, surveyor:—

(*a*) *F. H. Stewart, Chelmsford	£8,161 14 8
(*b*) *C. Smith & Sons, Chelmsford	2,028 19 2

Manchester.—Additions to the spice mill for Messrs. F. Price (Manchester), Ltd., Johnson-street and Roseberry-street, Gorton. Messrs. J. H. Maybury & Son, architects, 19, Chapel-walk:—
*T. Davies, Gorton.

Manchester.—Conversion of premises at 46, Cross-street, for the British and Irish Travel Agency. Mr. W. P. Horsburgh, F.R.I.B.A., architect, Dlo. Exchange,buildings, Liverpool:—
*J. H. & I. Sankey, Warrington.

Manchester.—Conversion of premises into showrooms as extensions for Messrs. Wild's, bazaar and toy merchants, Market-street:—
Plumbing, Heating and Gas—
*Walter Berry & Sons, Manchester.
Ceiling—
*Express Window Co., Ltd., Manchester.
Flooring—
*City Flooring Co., Manchester.

Manchester.—Alterations and improvements to the premises of Messrs. Norville & Co., 126, 218 and 130, Market-st. Mr. K. Glass, F.R.I.B.A., architect, 20, Saville-row, Newcastle-on-Tyne:—
*James Irwin & Sons, Newcastle-on-Tyne.
Decorators—
*J. Bernham, Ltd., Newcastle-on-Tyne.
Terrazzo Floors—
*J. & J. Patteson, Manchester.
Plasterers—
*R. W. Smiles, Newcastle-on-Tyne.
Showcases—
*G. Pearson, Birmingham.

Market Harborough.—Handicraft hut, for the Leicestershire T.C.:—
*Hickmans & Son £325

Medlar-with-Wesham.—Fire station in the parish of Wesham for the Parish Council:—
*Saul & Cooper, Lytham St. Annes.

Mytholmroyd.—Additional wing to the Wesleyan School, for the trustees. Messrs. Sutcliffe & Sutcliffe, A.R.I.B.A., architects, New-road, Hebden Bridge:—
Mason and Bricklayer—
*L. Mortimer, Hebden Bridge.
Joiner—
*S. Senior, Mytholmroyd.
Painter and Plasterer—
*Wrigley & Son, Hebden Bridge.
Plumber—
*Robert Thomas, Mytholmroyd.

Nuneaton.—115 houses, for the Corporation:—
*H. Boot & Sons, Ltd., Sheffield £38,714

Old Fletton.—Police Court, for the Huntingdon Standing Joint Committee. County Architect:—

A. Pettitt & Sons, Ramsey	£3,475 0 0
F. B. Thackray & Co., Ltd., Huntingdon	3,100 0 0
A. N. Swearer & Son, Ramsey	2,985 0 0
Rose & Sons, Ltd., Whittlesey	2,813 14 6
M. J. Allen & Sons, Ltd., Brampton	2,745 0 0
W. Jellings, Peterborough	2,700 0 0
J. Guttridge & Sons, Ltd., Peterborough	2,645 0 0
J. W. Barber, Stanground	2,598 0 0
*J. Cracknell & Sons, Ltd., Peterborough	2,097 0 0

Preston.—Congregational Church at Penwortham, for the Congregational Union, 244, Deansgate, Manchester. Mr. J. O. Harris, L.R.I.B.A., architect, 4, Camden-place:—
*J. Turner, Preston.

Portsmouth.—Business premises at North End, for Messrs. Chinneck & Coffin. Messrs. A. E. Cogswell & Sons, chartered architects, Portsmouth. Quantities by the architects:—

G. J. Davis, Southsea	£20,057
Light Bros., Portsmouth	19,590
John Lay & Co., Portsmouth	18,936
Jno. Croad, Portsmouth	18,800
Saml. Salter, Southsea	18,356
Tanner Bros., Southsea	18,307
F. Privett, Southsea	17,943
*E. & A. Sprigings	17,900

Ramsbottom.—Concrete retaining wall alongside the River Irwell at Nuttall Park. Mr. A. Plunkett, engineer and surveyor:—
*P. Drake & Sons, Haslingden.

Reading.—Erection of offices, traders' rooms, etc., at Reading Cattle Market, for the T.C. Mr. A. S. Parsons, Borough Engineer and Surveyor:—
*Thos. F. Abery, Tilehurst.

Redcar.—War Memorial porch to the Weslevan Church, for the War Memorial Committee. Mr. W. A. Kellett, L.R.I.B.A., architect, Lloyds Bank-chambers, Market-place, Barnard Castle:—
*G. C. Young, Barnard Castle £600

Rochdale.—Alterations to the Male Vagrant Wards, for the B.G.:—
*Woolfenden & Greenwood, Rochdale.

Rochdale.—External painting work required to 148 houses on Kilworth-street estate; 36 houses on Ivor-street estate; and 2 steel houses at Marland, for the C.B.:—
Ivor-street—36 houses and 2 steel houses at Marland—
*R. Hall, Rochdale.
—*Kilworth-street—148 houses*—
*A. & J. W. Lord, Rochdale;
*O. Kennedy & Son, Rochdale.

Rothwell.—580 super yards of retaining and boundary stone walls, in connection with road improvement scheme at Town End, Lofthouse, Leeds and Wakefield main road, for the U.D.C. Mr. J. Southwart, surveyor:—
*J. W. Clarkson, Carlton.

Salford.—Alterations at premises numbered 131 and 133, Regent-road, Salford, to provide increased accommodation for the Maternity and Child Welfare Centre for the City Council:
*E. J. Coupe & Sons, Ltd., Salford... £368 10

Salford.—Installation of electric lighting at Lower Kersal Council school, for the City Council:—
*Price & Sons, Salford £347 8

Salford.—Alterations at 10 and 12, Encombe-place, for the City Council:—
*P. Hamer, Ltd., Swinton £698 7 6

Salford.—Repairs at the Mode Wheel Disinfecting station, for the City Council:—
*P. Hamer, Ltd., Swinton £141 18

Sheffield.—Hotel at Norton, for Messrs. Tennants Bros., Ltd., Exchange Brewery. Messrs. Gibbs, Flockton & Gibbs, FF.R.I.B.A., architects, 15, St. James-row:—
*A. Bradbury & Sons.
Plastering—
*A. Chadwick & Son.
Rolled steel beams, roof trusses—
*T. W. Ward, Ltd.
Wood block flooring—
*Hollis Bros. & Co., Ltd., Hull.
Slating—
*Wm. Proctor & Sons.
Plumbing—
*J. T. Curtis.
Painting—
*F. Naylor, Ltd.
(All of Sheffield.)

Sheffield.—Licensed premises at Southey, for Messrs. John Smith's Tadcaster Brewery Co., Ltd., Tadcaster. Messrs. Holmes & Son, architect, 16, St. James-street:—
*W. Marlow & Sons, Ltd., Sheffield.

Sheffield.—Extensions to the Page Hall Kinema, Pitsmoor. Mr. Ernest Sheppard, architect, Brownhall-park:—
*Thomas Ardern & Sons.
Steelwork—
*Blake & Co., Ltd.
Plumbing and Glazing—
*B. Eagers.
Painting and Decorating—
*Lake & Willock.
(All of Sheffield.)

Slough.—Club and headquarters for the Slough Branch of the British Legion. Mr. Charles Bowyer, architect. Quantities by the architect:—

Harvey & Quelch	£6,200
E. A. Collins	6,133
W. Hartley	5,852
H. Street	5,745
H. D. Bowyer	5,486
*Carter & Wilks	5,424

Swansea.—For the erection of the superstructure of the Mental Hospital, at Sketty, for the Joint Visiting Committee of the County Boroughs of Swansea and Merthyr Tydfil. Mr. H. Carter Pegg, F.R.I.B.A., architect, 35, Parliament-street, S.W.1:—

E. P. Davies, Ltd., Merthyr	£378,000
H. B. Jenkins, Ltd., Swansea	320,000
A. L. Mansel, Swansea	318,950
Griffith Davies & Co., Swansea	316,454
Thomas Bros., Pontardawe	311,737
Evan Thomas & Son, Neath	307,991
Charles Tyler, Swansea	304,765
James Bros., Swansea	309,000
W. H. Snow & Sons, Neath	299,634
Wilson Lovatt & Sons, Wolverhampton	297,736
R. Meara, Abersychan	295,730
Bennett Bros., Swansea	295,630
H. Billings & Sons, Swansea	295,150
J. B. Edwards & Co., London	293,160
Lloyd Bros., Ltd., Swansea	290,208
J. & F. Weaver, Swansea	290,000
Stewart & Partners, Ltd., London	289,459
E. A. Bond & Co., Cardiff	284,109
T. P. Howells, Ltd., Caerphilly	284,989
Foster & Dicksee, Ltd., Rugby	284,253
Llawford Gower & Sons, Briton Ferry	282,700
F. J. Thomas & Sons, Ltd., Cardiff	280,000
S. Hodgson, Ltd., Swansea	278,697
Thos. Cole & Sons, Ltd., Neath	270,915
Wm. Bagg & Sons, Porthcawl	270,000
Andersons, Ltd., Chesterfield	267,672
Richard Jones, Caerphilly	257,430
Sir Lindsay Parkinson, Ltd., London	255,950
Bradford & Davies, Cardiff	249,696
Wm. T. Nicholls, Ltd., Gloucester	249,000
*E. Turner & Sons, Ltd., Cardiff	247,847

Todmorden.—Church of St. Joseph's, Wellington-road, for Rev. O. Hagan. Messrs. Byrom & Noble, AA.R.I.B.A., architect, Silver-street, Bury :—
*Dryland & Preston, Ltd., Littleborough.

Joiners—
*James England, Ltd., Littleborough.

Plumbers—
*H. Tattersall, Ltd., Rochdale.

Slater—
*T. Sutcliffe & Sons, Todmorden.

Wakefield.—Church hall at Lupset, for the Church of England Authorities. Messrs. W. Wrigley & Son, architects, AA.R.I.B.A., 2, King-street :—
*G. Crook & Son, Ltd., Wakefield.

Wakefield.—For (*a*) 24 houses at Middlestown, (*b*) 8 at Kirkhamgate, and (*c*) 20 at Sharlston, for the R.D.C. Messrs. Massie & Holdsworth, architects, Yorkshire-buildings, Wood-street :—

(*a*)—			
*F. Clark & Son	£2,845	0	0
Joiners—			
*W. Pickles & Co.	1,676	0	0
Painter—			
*H. Firth	134	8	0
Plasterers—			
*F. Beighton & Son	408	0	0
Slaters—			
*Dawbér, Townsley & Co.	551	11	0
Plumbers—			
*Hodgson & Co.	720	0	0
(*b*)—			
*A. Lockwood & Co.	1,020	0	0
Joiners—			
*R. R. Atkinson	544	0	0
Plumbers—			
*Hodgson & Co.	250	0	0
Plasterers—			
*Ellis & Longbottom	151	11	8
Slaters—			
*Dawber, Townsley & Co.	183	17	0
(*c*)—			
*W. J. Abbott	2,450	0	0
Joiners—			
*W. Pickles & Co., Ltd.	1,480	0	0
Painter—			
*J. Bedford	138	0	0
Plasterers—			
*Ellis and Longbottom	376	18	2
Slaters—			
*Dawber, Townsley & Co.	459	12	6
Plumber—			
*W. Andrassey	680	0	0

(All of Wakefield.)

Wallsend.—Branch premises in High-street, for the Midland Bank, Ltd. Messrs. F. Caws, Steel & Caws, L.R.I.B.A., architects, 22, Fawcett-street, Sunderland :—
*G. Park & Son, Ltd., North Shields.

Wigan.—Improving Baptistry of St. Thomas' Church :—
Woodwork, etc.—
*P. Houghton, Wigan.
Window—
*Shrigley & Hunt, Lancaster.

Wistow (Selby).—Church schools, for the Church of England. Mr. F. T. Penty, architect :—
*J. H. Carr & Sons.

Yeovil.—3 shops and conversion of house into shop in Westfield-road, Yeovil, for the T.C. :—

T. Mithlin & Co. Langport	£3,402
C. T. Tucker, Bristol	3,228
W. G. Spiller, Chard	2,700
Bird & Pippard, Ltd., Yeovil	2,566

York.—Gymnasium at the St. John's College. Messrs. Ward & Leckenby, architects :—
*F. Shepherd & Son, Ltd.

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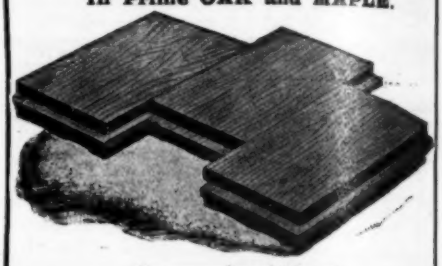
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